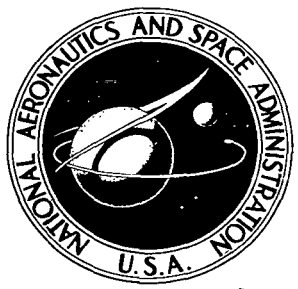
NASA TECHNICAL NOTE



NASA TN D-3815

NASA TN D-3815

SCALAR AND COMPONENT WIND CORRELATIONS BETWEEN ALTITUDE LEVELS FOR CAPE KENNEDY, FLORIDA, AND SANTA MONICA, CALIFORNIA

by Glenn E. Daniels and Orvel E. Smith

George C. Marshall Space Flight Center
Huntsville, Ala.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • WASHINGTON, D. C. • APRIL 1968

SCALAR AND COMPONENT WIND CORRELATIONS BETWEEN ALTITUDE LEVELS FOR CAPE KENNEDY, FLORIDA, AND SANTA MONICA, CALIFORNIA

By Glenn E. Daniels and Orvel E. Smith

George C. Marshall Space Flight Center
Huntsville, Ala.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

For sale by the Clearinghouse for Federal Scientific and Technical Information
Springfield, Virginia 22151 – CFSTI price $3.00

TABLE OF CONTENTS

LIST OF TABLES

SCALAR AND COMPONENT WIND CORRELATIONS BETWEEN ALTITUDE LEVELS FOR CAPE KENNEDY, FLORIDA, AND SANTA MONICA, CALIFORNIA

SUMMARY

The analysis of large quantities of atmospheric data for use in space vehicle design studies requires the application of statistical methods. An envelope of means or any given percentile derived from a sample of winds taken at discrete altitudes is not necessarily a mean profile and may not define a physically attainable wind profile. Coefficients of correlations with means and standard deviations may be used in a statistical model to derive realistic wind profiles.

The statistics presented in this report are based on rawinsonde wind data samples for Cape Kennedy, Florida, and Santa Monica, California, which are greatly improved samples over those previously available [1]. These samples represent an improvement in that they are from a more recent observational period with fewer missing measurements than earlier records and because the data have been carefully edited, checked, and serially completed for missing data [2].

INTRODUCTION

Since the publication of NASA TN D-561, "Interlevel and Intralevel Correlations of Wind Components for Six Geographical Locations" [1], a much improved data sample has become available in the form of serially complete rawinsonde wind records for Cape Kennedy, Florida, and Santa Monica, California. These records are serially complete twice daily for the eight-year period from January 1, 1956, through December 31, 1963, for Cape Kennedy, Florida, and four times daily for the nine-year period from January 1, 1956, through December 31, 1964, for Santa Monica, California. These upper wind records have been checked for correctness of data, edited, and missing data inserted by interpolation, extrapolation, or use of data from nearby stations by professional meteorologists [2]. The samples are thus

serially complete for wind speed and wind direction at all altitudes from 0 to 27 km at 1-km increments. Using these samples, several wind statistics are presented for monthly, annual, and seasonal reference periods. The seasons are defined as follows: Winter - December, January, and February; Spring - March, April, and May; Summer - June, July, and August; and Fall - September, October, and November. The tabulations contain the following wind statistics at 1-km intervals up to 27-km altitude:

1. Zonal, meridional, and scalar mean and standard deviations.
2. Interlevel correlation coefficients.
3. Intralevel correlation coefficients.
4. Cross level correlation coefficients.
5. Scalar correlation coefficients.

Acknowledgment

The computations in this report were done by Mr. Frank Baker of the MSFC Computation Laboratory under the direction of Mr. Paul Harness.

DISCUSSION

A correlation coefficient is a measure of the relationship between variables. No cause or effect can be inferred from correlation coefficients in themselves. A value of zero for a correlation coefficient merely indicates the absence of a linear relationship and not necessarily that the variants are independent. One property of a linear correlation coefficient is that it is equal to ± 1 if, and only if, the sample pairs lie on a straight line. A positive (negative) correlation coefficient indicates that the positive values of one variate are associated with positive (negative) values of another variate. The values of the variates are measured from their respective means.

The tabulated correlation coefficients in this report are presented as a measure of the linear relationship between the paired variables in a purely mathematical sense. The coefficients of linear correlation as derived from the two data samples described in the previous section are as follows:

1. The interlevel coefficients express the linear relationship between like variables between altitudes (levels). The variables are scalar winds, zonal and meridional wind components.

2. Intralevel coefficients express the linear relationship between unlike variables at the same altitude. The variates are zonal and meridional wind components.

3. Cross level coefficients express the linear relationship between unlike variables between altitudes. The variables are zonal and meridional wind components.

The effect of random errors in the individual wind measurements on the statistics is to increase the variances (or standard deviations) and thus decrease the value of the correlation coefficients from what they would be if there were no random errors in the measurements. Small random errors of the measurements do not affect the mean values. If the wind data sample is biased because of limitations in the measurements (errors not random) or is selective because of limitations in the measuring system, then the resulting statistics are also biased. A number of authors have elaborated on the errors produced in wind velocity data as measured by operational equipment of the various weather services. Tolefson [3] briefly summarizes the possible errors in wind velocity measurement and also lists references which may be consulted for additional details on wind measurement errors. More details on accuracies of atmospheric measuring equipment are covered by Mather [4] and by the Inter-Range Instrumentation Group [5].

Because of the standard rawinsonde methods required to derive the wind versus altitude, the wind data are not necessarily independent measurements over altitude intervals from 600 to 1200 m. These altitude increment estimates are based on a rawinsonde balloon ascent rate of 300 m/min and on the assumption that the wind is derived as the average displacement of the balloon over 2 and 4 minutes, respectively. Therefore, interlevel correlation coefficients can be expected to have high values for altitude separation of 1 km.

The serially complete data samples which give the same number of wind data points at every altitude level eliminate the usual problems in statistical computations of a decreasing number of observations with increasing altitude, and hopefully will eliminate some of the bias in the statistics which might occur due to a selective sample. B. N. Charles [6] has compared correlation coefficients for wind records which are serially complete with those not serially complete.

The serially completed data, because of persistence, will produce larger correlation coefficients than for randomly selected profiles. The significance of the correlation coefficients can be estimated from the number of observations that can be considered independent. From a study of autocorrelations of upper winds over Cape Kennedy, it is concluded that the wind observations are independent at approximately three-day intervals. Using this as a guide, the correlation coefficients have the following significance:

At the 5 percent level of significance, values ≥ 0.250.

At the 1 percent level of significance, values ≥ 0.300.

From the wind statistics presented in this report, the wind profile as a vector quantity with respect to altitude can be statistically treated most advantageously by using the properties of the normal distribution of two variables as normal (Gaussian) distributions.

Several studies have been made to apply wind statistics in a practical manner to missile and space vehicle design and operational problems. Court, 1957 [7], provides a set of tables containing correlation coefficients of wind components for several geographic locations. Court's data are presented on a seasonal basis rather than for each monthly period as provided in this report. Mulligan, 1957 [8], describes the practical use of data on wind component correlations in missile impact dispersion studies. Bieber, 1959 [9], uses the information on correlation of wind components as input data in a study related to the structural load response of vertically rising missiles. These references illustrate some of the uses for the interlevel, intralevel, and cross level correlations of wind components presented in this report. Henry [10] presents a method of preparing synthetic wind profiles by use of correlation coefficients between wind components. If the wind components are assumed to be normally distributed, it would be inconsistent to assume that the wind speed (scalar wind) is normally distributed. Under this assumption, the scalar wind would be a

chi-square distribution. In fact, the distributions of wind speed deviate more from the normal distribution than does the distribution of wind components. A more appropriate distribution for wind speed at many altitudes is one that is bounded. A negative value for a wind speed is physically unrealistic. Recognizing these conditions, there is still an interest in the means, standard deviations, and interlevel correlation coefficients for scalar wind speed.

TABLE INTERPRETATION

The arrangement of the data in Tables I through VI was designed to provide the maximum information about the station and the statistical data. To eliminate errors in the statistical data from retyping, the table formats were designed to permit use of the original computer printouts directly for the tabular values. Each table heading contains a description of the type of data contained and where the data is located in the matrix of the table.

The following examples illustrate the use of the tables to find the appropriate correlation coefficients for Cape Kennedy, Florida in March:

1. To find the correlation coefficient between the meridional winds at 7 km and the zonal winds at 13 km, use Table II. 3 for cross level correlations. Enter the table at the top and go across to find the column with the heading of 7-km altitude (meridional mean as shown on first row is 2. 02), then follow down the column to the row with 13-km altitude labeled on the left of table and find the correlation coefficient value of 0. 233. In this table, the cross level correlation coefficients may be above or below the diagonal line, depending on whether the meridional or zonal winds are at the higher level.

2. To find the correlation coefficient between meridional winds and zonal winds at the same altitude, for instance at 7 km, then either Table I. 3 or Table II. 3 may be used. This will be identified as the intralevel correlation coefficient. Follow down the column for 7 km to the row for 7 km and the value of 0. 214 will be found between the two diagonal lines.

3. To find the correlation coefficient between meridional winds at two levels, 13 km and 7 km, use Table I. 3 for interlevel correlations. Select the two levels such that the values will be above and to the right of the double line; i. e., go across the top to 13-km altitude, and then down the column to the 7-km row and find the value of 0. 660. Similarly, the correlation coefficients for zonal winds between the same altitudes, 13 km and 7 km, would also be found

in Table I.3 for interlevel correlations; but it will be below and to the left of the diagonal lines; i.e., go across the row headed 13 km to the 7-km column and the value of 0.623 will be found.

4. The correlation coefficients of scalar winds given in Table III.3 between two levels are found in the same way as the zonal wind correlation coefficients; i.e., use the table below and to the left of the diagonal lines. As an example, the scalar wind correlation between 13 km and 7 km will be found by going across the 13-km row to the 7-km column where the value 0.599 will be found.

CONCLUDING REMARKS

The wind statistics presented in this report can be used in rather sophisticated statistical models to gain insight into aerospace vehicle problems involving the linear relationship between wind components at discrete altitudes and between altitudes. One model whose properties are well understood is the normal distribution in two variables.

The serially complete wind record has eliminated a problem in computing the interlevel correlation coefficients. Although the sample is more highly correlated with time than a random sample would be, estimates of the effects of the time correlation on the resulting statistics can be established.

George C. Marshall Space Flight Center
National Aeronautics and Space Administration
Huntsville, Alabama, December 6, 1966
124-12-03-00-62

REFERENCES

1. Vaughan, William W., "Interlevel and Intralevel Correlations of Wind Components for Six Geographic Locations," NASA TN D-561, National Aeronautics and Space Administration, Washington, D. C., 1960.

2. Canfield, Norman L.; Smith, Orvel E.; Vaughan, William W., "Progress in Circumventing Limitations of Upper Wind Records," Journal of Applied Meteorology, Vol. 5, No. 3, pp. 301-303, June 1966.

3. Tolefson, H. B., "An Investigation of Vertical Wind Shear Intensities from Balloon Soundings for Application to Airplane and Missile Response Problems," NASA TN D-3732, 1956.

4. Mather, John R., et al., "Recent Developments in Meteorological Sensors and Measuring Techniques to 150,000 feet. Part 1. Analysis," C. W. Thornthwaite Associates, Centerton, New Jersey, Final Report Contract DA-28-043AMC-00001(E). AD 616 355, 30 April 1965.

5. "Meteorological Equipment Data Accuracies," Document 110-64 Meteorological Working Group, Inter-Range Instrumentation Group. Published by Secretariat, Range Commanders Council, White Sands Missile Range, New Mexico, March 1965.

6. Charles, B. N., On Some Limitations of Upper Wind Records, Journal of Geophysical Research, Vol. 64, No. 3, pp. 343-346, 1959.

7. Court, A., "Vertical Correlations of Wind Components," AFCRC TN 57-292, Air Force Cambridge Laboratories, Bedford, Massachusetts, 29 March 1957.

8. Mulligan, J. E., "Analysis of the Expected Effects of Wind and Density Distributions on the Impact Coordinates of the Polaris Missile," U. S. Naval Proving Ground, Dahlgreen, Virginia, 21 June 1957.

9. Bieber, R. E., "Missile Structural Loads by Nonstationary Statistical Methods," Lockheed Technical Report LMSD 49703, Lockheed Missile and Space Division, Sunnyvale, California, 29 April 1959.

10. Henry, Robert M., "A Statistical Model for Synthetic Wind Profiles for Aerospace Vehicle Design and Launching Criteria," NASA TN D-1813, 1963.

TABLE I

Page

Interlevel and Intralevel Coefficients of Linear Correlation between Wind Components, Cape Kennedy, Florida

TABLE I. I INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

JANUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL SD	-1.02	0.57	0.77	0.93	1.25	1.54	2.17	2.68	2.82	2.98	3.35	3.02	3.33	3.44	2.66	2.95	2.70	1.99	1.54	1.06	0.62	0.51	0.80	1.19	1.39	1.60	1.80	2.54
				3.64	6.55	6.84	7.80	8.30	8.57	9.85	10.67	11.51	12.38	12.97	13.95	13.76	11.86	10.45	9.58	8.06	7.22	5.82	4.66	4.03	3.00	4.10	4.50	4.37	4.61	5.22	5.98
SFC	0.98	3.20		.208	.616	.445	.360	.318	.238	.160	.123	.073	.033	-.005	-.016	-.006	-.003	.017	.014	.001	-.022	-.053	-.072	-.052	-.065	-.078	-.069	-.092	-.093	-.036	.003
1	3.27	6.76		.625	-.005	.806	.667	.596	.525	.438	.369	.306	.257	.174	.141	.124	.132	.172	.183	.209	.177	.114	.116	.108	.073	-.046	.000	-.037	-.011	.027	.030
2	7.68	6.84		.524	.813	.670	.881	.783	.716	.652	.579	.526	.459	.361	.325	.291	.275	.259	.331	.345	.317	.256	.252	.188	.120	-.020	.056	.026	.094	.104	.098
3	11.53	7.22		.448	.686	.874	.077	.903	.836	.778	.706	.660	.595	.506	.474	.435	.415	.428	.438	.436	.359	.344	.361	.231	.118	.009	.086	.068	.125	.121	.154
4	15.09	7.70		.465	.630	.780	.898	.098	.519	.835	.768	.720	.668	.584	.555	.514	.492	.498	.499	.492	.450	.402	.426	.264	.130	.047	.107	.094	.157	.145	.168
5	18.70	8.75		.450	.580	.723	.817	.916	.146	.921	.851	.812	.769	.686	.641	.596	.563	.550	.534	.533	.487	.444	.447	.284	.136	.063	.123	.111	.183	.148	.167
6	22.27	9.34		.390	.491	.659	.748	.836	.918	.161	.628	.884	.829	.756	.704	.657	.608	.592	.574	.567	.519	.468	.475	.309	.174	.116	.149	.144	.193	.159	.185
7	25.90	10.37		.342	.434	.600	.701	.783	.856	.931	.236	.934	.871	.795	.744	.694	.641	.616	.590	.595	.537	.500	.504	.358	.187	.129	.167	.157	.202	.169	.186
8	29.52	11.23		.298	.372	.539	.648	.705	.767	.836	.923	.267	.921	.864	.802	.731	.666	.643	.622	.620	.565	.510	.509	.344	.177	.123	.213	.185	.235	.200	.212
9	32.87	12.65		.287	.352	.512	.610	.653	.706	.764	.857	.928	.283	.924	.860	.789	.730	.687	.650	.651	.594	.528	.512	.352	.186	.152	.250	.223	.228	.200	.227
10	36.55	14.06		.269	.292	.434	.541	.595	.655	.693	.771	.838	.926	.295	.932	.851	.779	.718	.656	.643	.597	.548	.526	.355	.181	.160	.258	.234	.228	.195	.236
11	40.50	15.33		.269	.266	.409	.514	.564	.629	.658	.721	.791	.869	.930	.262	.804	.814	.736	.657	.637	.586	.542	.522	.360	.161	.168	.242	.214	.196	.148	.188
12	43.22	14.73		.258	.256	.367	.485	.535	.592	.631	.683	.749	.809	.864	.901	.269	.867	.770	.683	.670	.599	.580	.536	.366	.145	.162	.218	.195	.160	.108	.172
13	43.48	12.83		.200	.198	.331	.438	.496	.545	.577	.631	.663	.711	.750	.775	.859	.241	.860	.749	.721	.635	.597	.523	.373	.146	.151	.231	.223	.167	.135	.192
14	41.60	12.11		.189	.239	.342	.453	.519	.539	.575	.626	.631	.674	.688	.687	.758	.818	.337	.851	.767	.692	.664	.581	.417	.195	.179	.232	.211	.158	.106	.149
15	37.33	10.62		.205	.173	.276	.377	.440	.472	.501	.545	.555	.589	.607	.618	.682	.706	.792	.326	.678	.763	.698	.613	.469	.230	.200	.221	.223	.207	.187	.213
16	31.86	9.12		.163	.127	.237	.315	.385	.390	.398	.433	.442	.471	.495	.503	.570	.616	.646	.783	.288	.863	.749	.657	.504	.255	.186	.183	.216	.223	.190	.214
17	25.90	8.41		.100	.076	.185	.272	.335	.374	.386	.400	.398	.404	.444	.450	.499	.565	.624	.675	.778	.254	.820	.679	.520	.283	.201	.206	.242	.257	.208	.221
18	19.11	7.63		.026	.075	.182	.281	.322	.344	.372	.382	.376	.378	.387	.390	.402	.453	.550	.524	.455	.663	.263	.782	.532	.324	.255	.246	.252	.289	.245	.248
19	13.49	7.54		.057	.049	.142	.215	.257	.267	.299	.314	.293	.290	.302	.285	.332	.323	.441	.391	.401	.459	.635	.212	.662	.377	.307	.295	.283	.306	.260	.233
20	8.96	6.99		.061	.015	.118	.152	.173	.192	.187	.197	.186	.192	.205	.204	.249	.225	.354	.377	.371	.412	.423	.611	.207	.491	.365	.355	.326	.318	.284	.261
21	6.41	7.33		.092	.008	.122	.134	.178	.141	.117	.157	.143	.148	.157	.190	.194	.217	.316	.361	.369	.394	.382	.285	.474	.165	.556	.408	.391	.384	.343	.290
22	4.72	8.44		.055	.050	.107	.131	.144	.147	.139	.161	.127	.130	.138	.166	.179	.151	.278	.247	.250	.324	.352	.404	.463	.578	.250	.567	.450	.419	.393	.321
23	3.65	8.00		.005	.035	.056	.084	.119	.116	.108	.114	.091	.120	.126	.141	.143	.111	.222	.261	.244	.279	.330	.373	.465	.524	.667	.251	.624	.443	.420	.386
24	2.42	9.79		-.038	.055	.061	.068	.085	.052	.040	.027	.006	.017	.028	.060	.074	.071	.169	.191	.151	.218	.285	.317	.439	.527	.570	.752	.283	.668	.463	.433
25	3.66	10.14		-.012	.077	.083	.105	.094	.078	.076	.080	.091	.120	.119	.150	.146	.122	.222	.217	.136	.227	.298	.306	.375	.488	.588	.711	.659	.250	.700	.571
26	4.47	11.98		.008	.092	.090	.121	.130	.128	.102	.122	.132	.171	.175	.201	.195	.173	.263	.254	.174	.241	.248	.262	.324	.445	.556	.707	.719	.846	.270	.785
27	4.50	13.65		-.021	.084	.080	.109	.120	.110	.078	.084	.091	.130	.132	.158	.144	.116	.186	.201	.132	.154	.174	.236	.295	.348	.453	.616	.710	.793	.894	.242

TABLE I. 2 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: **ZONAL MEAN VALUES** - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

FEBRUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 452

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.04	2.41	1.83	1.96	2.23	2.44	3.03	3.52	3.81	4.04	3.92	4.06	4.20	4.02	3.67	2.75	2.37	1.44	0.92	0.83	0.72	-0.23	-0.68	-0.26	-0.02	-0.53	-0.42	-0.14
			SD	3.92	6.46	6.42	7.03	7.77	8.72	9.28	10.14	11.22	12.31	13.64	15.01	14.51	12.51	11.25	9.62	8.45	7.18	6.02	4.88	4.19	5.01	4.46	4.30	3.97	3.64	4.02	3.96
SFC	0.54	3.62		-.281	.679	.520	.425	.393	.266	.193	.132	.103	.051	.011	-.014	-.036	-.080	-.027	-.010	-.035	.005	-.020	.000	-.040	.021	.005	.003	.022	.111	.140	.155
1	3.74	7.08		.645	-.078	.824	.679	.608	.497	.385	.272	.209	.160	.142	.087	.065	-.024	.021	.074	.051	.089	.078	.075	-.028	.074	-.012	.011	-.022	.103	.130	.133
2	7.71	7.49		.602	.836	-.053	.851	.757	.671	.589	.478	.435	.377	.348	.280	.259	.170	.192	.235	.211	.270	.254	.208	.104	.091	-.002	.002	-.021	.126	.124	.139
3	11.15	8.31		.593	.721	.685	-.052	.857	.811	.731	.639	.593	.539	.497	.426	.359	.315	.338	.356	.356	.392	.340	.268	.168	.110	.007	.020	.029	.167	.170	.186
4	14.21	9.37		.576	.656	.812	.922	-.078	.918	.830	.741	.681	.622	.564	.499	.470	.375	.410	.405	.441	.379	.321	.214	.110	-.004	.039	.071	.183	.204	.230	
5	17.63	10.57		.544	.594	.763	.860	.936	-.058	.910	.816	.746	.680	.628	.554	.526	.438	.454	.454	.454	.489	.425	.357	.240	.119	-.001	.037	.061	.175	.203	.241
6	21.36	11.74		.543	.553	.714	.818	.901	.950	.874	.812	.840	.778	.705	.639	.606	.552	.557	.565	.537	.547	.502	.419	.284	.117	.006	.038	.059	.134	.168	.199
7	24.82	13.27		.501	.514	.679	.783	.866	.912	.951	.959	.918	.848	.778	.713	.677	.634	.630	.620	.592	.580	.537	.429	.302	.131	.001	.057	.072	.119	.141	.161
8	28.15	14.98		.467	.483	.642	.752	.826	.881	.917	.956	.972	.928	.850	.781	.727	.706	.687	.629	.607	.588	.546	.430	.304	.104	.003	.051	.069	.109	.127	.160
9	31.98	16.90		.422	.437	.597	.710	.783	.832	.865	.899	.952	.975	.925	.858	.799	.749	.728	.658	.620	.594	.534	.447	.314	.092	.000	.052	.046	.090	.098	.141
10	35.43	18.21		.382	.387	.548	.668	.724	.773	.811	.835	.892	.946	.991	.933	.873	.780	.750	.688	.648	.634	.562	.485	.303	.117	.010	.063	.076	.100	.084	.162
11	38.89	19.37		.369	.357	.516	.644	.697	.729	.768	.794	.845	.908	.954	.942	.929	.824	.775	.705	.663	.638	.567	.499	.324	.119	.037	.085	.066	.088	.072	.152
12	41.59	18.66		.364	.363	.529	.642	.686	.715	.750	.772	.818	.867	.904	.938	.950	.874	.813	.734	.717	.684	.616	.537	.357	.093	.031	.106	.081	.071	.070	.158
13	41.56	16.97		.357	.340	.506	.613	.659	.685	.731	.755	.785	.826	.854	.873	.899	.938	.888	.785	.755	.715	.660	.559	.368	.051	-.020	.080	.107	.012	.015	.088
14	38.88	14.39		.330	.251	.413	.535	.591	.635	.679	.706	.744	.773	.806	.823	.834	.865	.916	.868	.796	.755	.705	.591	.291	.058	-.001	.078	.105	.045	.052	.099
15	34.17	12.47		.311	.257	.409	.521	.569	.615	.655	.670	.691	.716	.761	.788	.805	.846	.872	.926	.877	.792	.754	.668	.410	.158	.070	.124	.172	.061	.081	.168
16	29.41	10.85		.291	.214	.374	.486	.532	.564	.604	.619	.636	.655	.696	.712	.763	.771	.786	.849	.907	.937	.772	.675	.466	.230	.127	.140	.165	.059	.122	.145
17	23.80	9.64		.243	.171	.313	.423	.497	.525	.560	.578	.606	.619	.631	.652	.691	.701	.719	.731	.824	.957	.812	.703	.496	.271	.182	.189	.196	.178	.115	.137
18	17.56	8.56		.232	.160	.294	.386	.466	.485	.505	.526	.542	.541	.535	.551	.578	.591	.587	.562	.569	.751	.248	.749	.485	.334	.212	.207	.223	.157	.141	.164
19	11.58	7.86		.243	.173	.295	.372	.429	.447	.472	.485	.488	.497	.486	.498	.508	.521	.512	.507	.575	.588	.612	.763	.561	.349	.314	.263	.254	.214	.150	.095
20	6.55	7.73		.148	.092	.205	.240	.252	.320	.327	.328	.346	.351	.370	.359	.347	.377	.410	.408	.469	.466	.384	.516	.278	.454	.337	.318	.235	.214	.184	.092
21	3.47	7.16		-.024	-.067	.030	.069	.108	.094	.097	.103	.119	.149	.166	.178	.154	.162	.249	.170	.234	.272	.343	.334	.462	.159	.585	.363	.290	.284	.176	.064
22	1.68	7.46		-.031	-.080	-.033	-.005	.053	.048	.078	.058	.066	.096	.135	.150	.148	.135	.186	.145	.203	.252	.289	.366	.253	.555	.122	.522	.361	.369	.229	.094
23	0.64	7.26		-.058	-.092	-.041	-.045	-.012	-.024	-.000	.004	.011	.013	.052	.076	.039	.047	.100	.037	.147	.169	.225	.267	.422	.468	.611	.149	.490	.370	.219	.115
24	0.45	7.28		-.137	-.111	-.077	-.053	-.003	.002	.033	.028	.059	.080	.114	.123	.100	.095	.156	.144	.136	.148	.233	.231	.229	.507	.528	.540	.107	.394	.155	.122
25	0.35	7.79		-.085	-.097	-.071	-.033	.010	.018	.051	.048	.028	.036	.074	.092	.059	.065	.115	.133	.136	.157	.212	.215	.196	.312	.485	.466	.549	.156	.527	.248
26	0.71	8.29		-.083	-.060	-.057	-.022	.006	.001	.032	.014	.021	.026	.055	.054	.031	.042	.102	.118	.133	.148	.184	.206	.191	.341	.330	.444	.408	.695	.596	.377
27	0.86	9.08		-.112	-.065	-.040	-.017	.001	.012	.030	.006	.014	.021	.057	.056	.044	.028	.098	.110	.106	.131	.167	.155	.130	.214	.340	.330	.815	.669	.814	.724

TABLE I. 3 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

MARCH

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN		-0.06	1.78	1.42	1.34	1.14	1.28	1.73	2.02	2.23	2.26	2.25	2.02	2.25	2.47	1.80	1.63	1.58	1.76	1.15	0.73	0.59	0.16	0.08	-0.08	-0.20	-0.39	-0.46	-0.50
			SD		3.99	6.31	6.23	6.70	7.38	7.83	8.73	9.83	10.52	12.72	14.35	16.46	15.87	13.88	10.93	9.46	8.17	7.18	5.93	4.93	4.40	4.00	4.01	3.89	4.02	3.63	3.47	3.87
SFC	0.25	3.46	-.197	.712	.488	.385	.264	.202	.152	.114	.065	.035	-.015	-.037	-.057	-.066	-.051	-.058	-.027	-.078	-.087	-.063	-.047	-.024	-.039	-.003	.028	.056	.019	.024
1	3.56	6.91	.621	-.021	.757	.551	.415	.306	.214	.166	.122	.083	.026	-.005	-.006	.021	.024	-.002	.038	-.017	-.086	-.051	-.115	-.077	-.112	-.034	-.006	.022	.006	.004
2	7.70	6.92	.559	.820	.018	.808	.662	.546	.480	.419	.374	.326	.251	.197	.175	.165	.181	.176	.196	.173	.100	.085	.003	-.025	-.100	-.052	-.015	-.019	.006	-.017
3	11.25	7.86	.567	.695	.857	.092	.872	.732	.664	.616	.547	.495	.412	.342	.308	.277	.322	.326	.352	.326	.252	.193	.114	.009	-.096	-.041	-.037	-.014	-.038	-.030
4	14.62	8.80	.525	.622	.743	.857	.088	.871	.777	.715	.652	.602	.522	.457	.420	.398	.462	.454	.484	.438	.355	.283	.196	.042	-.065	-.004	-.009	-.025	-.048	-.063
5	18.43	9.64	.473	.558	.678	.816	.925	.170	.890	.818	.751	.672	.606	.536	.503	.492	.543	.535	.547	.527	.438	.363	.271	.123	.014	.040	.013	-.014	-.077	-.118
6	22.70	10.10	.425	.510	.636	.755	.852	.521	.203	.919	.844	.781	.714	.639	.597	.581	.628	.629	.601	.588	.506	.433	.331	.134	.036	.034	.021	-.028	-.103	-.102
7	26.50	11.02	.405	.453	.566	.685	.774	.839	.914	.214	.914	.840	.785	.731	.688	.660	.681	.680	.629	.620	.536	.433	.317	.141	.023	.015	.004	-.045	-.102	-.103
8	30.28	11.95	.389	.424	.532	.666	.758	.820	.876	.934	.209	.921	.861	.806	.767	.737	.738	.718	.687	.667	.579	.454	.369	.153	.046	.018	.011	-.053	-.111	-.085
9	34.18	13.30	.349	.366	.476	.616	.701	.762	.820	.869	.932	.158	.938	.865	.823	.778	.746	.717	.686	.651	.574	.474	.348	.112	.033	.002	-.028	-.070	-.136	-.110
10	38.24	14.79	.317	.298	.405	.597	.634	.689	.743	.801	.868	.941	.098	.924	.874	.828	.776	.734	.699	.675	.576	.474	.334	.103	.039	-.026	-.047	-.074	-.115	-.094
11	42.18	15.54	.289	.258	.375	.522	.587	.645	.696	.746	.801	.875	.928	.078	.920	.841	.783	.731	.693	.673	.567	.461	.339	.124	.062	-.020	-.055	-.084	-.114	-.111
12	45.27	15.58	.245	.237	.340	.475	.530	.592	.640	.688	.730	.777	.833	.887	.132	.901	.795	.726	.691	.669	.568	.423	.263	.169	.058	.011	-.085	-.106	-.151	-.123
13	45.25	13.80	.183	.191	.290	.418	.480	.531	.594	.623	.679	.767	.748	.793	.860	.133	.858	.755	.746	.699	.553	.418	.370	.154	.064	.012	-.050	-.063	-.114	-.085
14	41.77	12.39	.153	.195	.256	.359	.446	.490	.541	.568	.602	.628	.657	.687	.741	.805	.067	.866	.779	.747	.623	.488	.359	.153	.041	.018	.008	-.079	-.127	-.069
15	36.34	10.69	.167	.206	.281	.382	.405	.434	.483	.504	.539	.562	.566	.575	.605	.661	.741	.040	.823	.746	.651	.511	.384	.149	.072	.030	.050	-.027	-.078	-.013
16	30.60	9.65	.111	.176	.259	.348	.362	.374	.433	.454	.477	.472	.481	.485	.550	.610	.649	.786	.032	.821	.676	.511	.448	.181	.114	.040	.039	-.012	-.032	-.019
17	24.80	8.93	.111	.163	.242	.279	.308	.321	.362	.386	.428	.427	.446	.440	.507	.549	.611	.667	.764	.017	.735	.590	.471	.212	.063	.025	.046	-.035	-.070	-.061
18	18.14	8.07	.118	.152	.213	.231	.267	.264	.296	.289	.312	.308	.308	.319	.390	.439	.489	.486	.547	.685	.015	.677	.439	.265	.112	.008	.052	-.059	-.107	-.006
19	11.02	7.46	.071	.090	.153	.159	.158	.136	.169	.171	.157	.161	.148	.142	.190	.244	.229	.316	.379	.364	.546	.107	.520	.339	.201	.121	.091	.048	-.038	-.036
20	6.54	7.19	.029	.044	.094	.087	.082	.100	.131	.114	.118	.139	.122	.140	.180	.207	.252	.352	.353	.401	.383	.418	.102	.482	.331	.237	.246	.216	.126	.093
21	3.67	6.55	-.056	-.016	.038	.019	.032	.020	.053	.066	.079	.082	.113	.140	.141	.139	.178	.158	.216	.199	.279	.248	.345	.060	.458	.324	.227	.203	.099	.094
22	1.22	6.79	.069	.062	.075	.109	.091	.070	.087	.107	.089	.114	.107	.107	.057	.086	.108	.137	.202	.120	.178	.290	.268	.395	.061	.583	.372	.343	.186	.093
23	-0.43	6.53	.029	.039	.038	.061	.049	.021	.025	.060	.045	.037	.056	.093	.064	.040	.034	.014	.075	.030	.052	.132	.217	.425	.548	.049	.525	.376	.275	.090
24	-0.90	6.70	-.030	.024	.006	.022	.012	-.010	-.021	-.003	-.006	.014	.025	.054	.057	.006	.019	.008	.040	-.010	.025	.094	.101	.305	.491	.607	.072	.527	.399	.223
25	-0.34	7.70	.086	.115	.070	.074	.033	.002	-.013	.009	.004	.022	.035	.066	.046	.053	.060	.109	.103	.044	.067	.133	.183	.273	.434	.527	.619	.119	.569	.321
26	0.50	8.12	.056	.058	.025	.011	-.004	-.046	-.046	-.012	-.009	.001	.028	.044	.014	.004	.045	.079	.063	-.013	.017	.076	.083	.269	.356	.454	.577	.761	.053	.588
27	0.43	9.18	-.028	-.011	-.059	-.098	-.137	-.152	-.168	-.144	-.135	-.104	-.066	-.043	-.029	-.046	.012	.062	.059	-.015	-.021	.044	.039	.159	.286	.346	.541	.654	.827	.027

TABLE I. 4 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

APRIL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.30	1.32	0.65	-0.16	-0.65	-0.84	-1.11	-1.56	-1.85	-1.91	-2.08	-2.81	-3.48	-3.75	-3.25	-2.31	-2.14	-1.66	-1.42	-0.81	-0.58	-0.52	-0.69	-0.84	-0.84	-0.92	-0.87	-0.96
			SD	3.51	5.74	5.66	6.55	7.15	7.23	7.77	8.49	9.15	10.38	11.96	13.74	14.95	13.98	11.87	9.35	8.21	6.88	5.42	4.59	4.20	3.54	3.33	3.22	3.19	3.24	3.11	3.31
SFC	-0.92	3.57	SFC	-.167	.691	.554	.469	.359	.345	.267	.222	.175	.134	.056	.036	.004	-.003	-.026	-.021	-.003	.016	-.001	.022	-.023	.027	-.103	-.040	-.041	-.068	-.025	-.052
1	1.14	7.11	1	.658	-.017	.796	.656	.583	.531	.445	.359	.341	.282	.202	.157	.114	.109	.068	.095	.160	.174	.096	.098	-.021	.084	-.067	-.012	-.026	-.040	.055	.001
2	3.81	7.61	2	.558	.838	.073	.834	.748	.674	.600	.520	.468	.408	.333	.271	.222	.216	.193	.230	.304	.277	.253	.216	.074	.061	-.095	-.002	.042	.017	.051	-.030
3	6.43	8.66	3	.600	.754	.898	.035	.669	.783	.717	.634	.574	.508	.434	.377	.310	.314	.310	.355	.409	.385	.349	.287	.132	.068	-.016	.047	.048	.021	.023	-.030
4	9.20	9.55	4	.561	.697	.838	.941	.076	.890	.797	.735	.651	.618	.546	.492	.433	.423	.406	.453	.488	.488	.420	.337	.190	.106	.013	.079	.100	.051	.036	.003
5	12.02	10.65	5	.538	.657	.792	.890	.950	.129	.903	.820	.760	.691	.627	.581	.524	.533	.518	.549	.586	.541	.509	.400	.202	.154	.060	.108	.115	.084	.047	.038
6	14.84	11.76	6	.505	.624	.760	.852	.905	.954	.152	.918	.845	.767	.698	.631	.578	.585	.567	.598	.610	.592	.534	.418	.227	.152	.048	.094	.102	.059	.050	.057
7	17.75	12.74	7	.512	.596	.738	.831	.887	.925	.963	.174	.919	.842	.778	.697	.645	.642	.614	.646	.638	.614	.562	.443	.247	.156	.045	.122	.109	.056	.034	.048
8	21.05	13.94	8	.490	.567	.710	.807	.857	.898	.932	.961	.163	.915	.853	.778	.729	.711	.685	.699	.682	.636	.585	.452	.264	.183	.074	.135	.136	.082	.064	.092
9	24.13	15.80	9	.487	.554	.681	.782	.824	.858	.885	.915	.961	.174	.925	.860	.803	.778	.723	.712	.683	.654	.580	.435	.244	.172	.078	.121	.127	.088	.064	.053
10	27.35	16.94	10	.477	.544	.648	.739	.795	.824	.848	.877	.922	.961	.245	.939	.879	.834	.789	.768	.736	.695	.630	.466	.243	.186	.103	.132	.145	.107	.085	.077
11	30.87	18.13	11	.446	.498	.603	.704	.756	.787	.818	.853	.895	.932	.964	.211	.943	.877	.822	.774	.733	.663	.600	.440	.219	.157	.132	.149	.166	.118	.075	.062
12	34.20	18.51	12	.359	.460	.572	.674	.725	.758	.785	.819	.853	.885	.915	.953	.219	.921	.839	.786	.722	.641	.603	.438	.216	.200	.119	.128	.170	.139	.088	.079
13	35.95	17.77	13	.395	.458	.576	.671	.724	.760	.782	.804	.837	.863	.880	.910	.941	.233	.883	.821	.749	.677	.630	.440	.214	.206	.123	.152	.194	.172	.104	.097
14	33.37	15.70	14	.362	.432	.536	.623	.659	.738	.772	.781	.794	.815	.842	.858	.888	.912	.248	.891	.789	.722	.665	.507	.303	.226	.153	.146	.204	.176	.099	.133
15	29.14	13.06	15	.322	.403	.509	.598	.670	.705	.728	.746	.761	.781	.794	.808	.832	.854	.887	.221	.875	.749	.694	.568	.347	.256	.169	.205	.202	.155	.109	.125
16	23.85	11.12	16	.326	.376	.491	.583	.644	.672	.688	.707	.718	.747	.762	.776	.791	.809	.824	.892	.160	.829	.724	.614	.362	.287	.195	.223	.203	.124	.114	.121
17	18.08	9.85	17	.268	.328	.453	.531	.595	.614	.650	.652	.653	.665	.677	.689	.720	.726	.777	.756	.618	.172	.772	.631	.377	.245	.157	.223	.201	.136	.119	.121
18	11.54	8.12	18	.242	.278	.412	.485	.549	.579	.622	.618	.617	.631	.642	.641	.651	.644	.674	.683	.735	.824	.177	.700	.446	.350	.300	.279	.242	.195	.122	.070
19	5.87	7.48	19	.266	.298	.389	.447	.498	.528	.544	.535	.539	.562	.555	.562	.551	.577	.571	.615	.661	.620	.706	.215	.560	.432	.335	.273	.244	.174	.112	.077
20	2.14	6.34	20	.286	.313	.395	.491	.515	.523	.526	.527	.517	.535	.524	.508	.524	.513	.536	.563	.584	.567	.527	.534	.157	.506	.314	.268	.311	.202	.066	.045
21	-0.42	5.75	21	.172	.215	.285	.328	.355	.345	.356	.343	.329	.338	.303	.294	.269	.297	.315	.397	.347	.397	.436	.439	.617	.163	.493	.369	.326	.225	.192	.143
22	-2.25	5.20	22	.125	.177	.207	.271	.290	.308	.312	.267	.292	.297	.279	.266	.264	.269	.278	.342	.384	.343	.347	.410	.554	.651	.054	.565	.339	.306	.216	.146
23	-2.95	5.34	23	.113	.174	.206	.259	.271	.267	.282	.266	.275	.292	.264	.241	.239	.237	.252	.303	.345	.316	.335	.314	.465	.567	.673	.019	.572	.367	.327	.239
24	-3.33	5.60	24	.077	.132	.160	.190	.216	.231	.249	.231	.247	.264	.253	.242	.264	.262	.253	.311	.338	.289	.347	.335	.420	.501	.614	.748	.020	.648	.407	.295
25	-3.08	6.21	25	.105	.166	.178	.213	.237	.251	.255	.245	.250	.286	.276	.264	.277	.282	.272	.333	.337	.298	.302	.293	.421	.477	.577	.642	.792	.229	.639	.368
26	-3.04	6.95	26	-.019	.105	.119	.147	.166	.175	.175	.157	.172	.179	.185	.181	.196	.217	.198	.240	.250	.227	.261	.247	.327	.409	.476	.513	.622	.773	.181	.674
27	-2.43	7.12	27	-.031	.087	.111	.143	.163	.177	.183	.160	.183	.179	.182	.185	.206	.221	.196	.215	.241	.209	.217	.204	.311	.374	.444	.521	.598	.651	.687	.056

TABLE I. 5 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

MAY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
					0.50	0.83	-0.37	-0.44	-0.36	-0.28	-0.27	-0.18	0.29	0.32	0.51	0.60	0.45	-0.84	-1.63	-2.59	-2.00	-2.66	-2.23	-1.56	-1.31	-0.82	-0.74	-0.50	-0.40	-0.56	-0.58	-0.55
					2.59	4.19	4.53	4.92	5.50	5.78	6.52	7.29	8.31	9.61	10.95	12.34	13.56	13.40	11.86	9.67	7.63	6.06	4.71	3.68	2.94	2.72	2.00	2.80	2.87	3.10	3.22	3.19
SFC	-1.85	3.16		-.000	.560	.324	.231	.315	.257	.258	.167	.158	.112	.076	.056	.037	.023	.013	.020	.017	.015	.033	.004	-.036	-.021	-.014	-.012	-.000	.047	.030	-.006
1	-0.95	5.21	.693		.094	.747	.653	.569	.548	.497	.419	.376	.352	.300	.271	.242	.219	.223	.201	.192	.127	.112	.022	-.007	-.030	-.006	.019	.042	.070	.036	-.007
2	0.28	5.58	.485	.788		.288	.845	.721	.683	.638	.577	.545	.545	.513	.477	.447	.417	.426	.406	.359	.289	.268	.202	.095	-.005	-.008	.029	-.000	-.001	-.020	-.023
3	1.39	6.01	.461	.708	.900		.324	.865	.800	.740	.661	.614	.604	.592	.559	.523	.483	.475	.459	.410	.349	.304	.195	.104	.001	-.029	-.020	-.035	-.030	-.053	-.057
4	2.62	6.61	.461	.644	.797	.889		.329	.875	.808	.725	.672	.654	.643	.606	.566	.528	.528	.503	.449	.371	.321	.219	.109	.015	-.012	-.027	-.045	-.076	-.068	-.067
5	4.05	7.01	.466	.610	.754	.833	.614		.302	.877	.776	.719	.687	.666	.632	.598	.561	.570	.542	.483	.400	.352	.230	.129	.044	-.028	-.042	-.064	-.084	-.051	-.040
6	5.36	7.67	.417	.537	.687	.762	.835	.614		.273	.908	.843	.806	.765	.735	.702	.660	.655	.616	.566	.476	.403	.260	.141	.013	-.022	-.016	-.057	-.057	.002	.012
7	6.93	8.35	.409	.516	.675	.730	.788	.856	.939		.299	.923	.866	.822	.788	.745	.703	.678	.664	.559	.518	.422	.318	.152	.071	.042	.022	-.037	-.032	.021	.020
8	8.34	9.17	.395	.471	.633	.688	.744	.812	.886	.940		.320	.939	.883	.850	.810	.759	.729	.703	.636	.540	.444	.345	.147	.066	.045	.022	-.034	-.029	.019	.025
9	9.94	10.07	.382	.430	.587	.636	.697	.765	.829	.881	.951		.334	.944	.899	.857	.801	.772	.732	.657	.565	.474	.355	.157	.110	.053	.013	-.058	-.064	-.006	-.001
10	11.98	11.54	.354	.368	.520	.572	.645	.707	.773	.813	.878	.937		.942	.895	.838	.785	.743	.666	.569	.475	.342	.152	.114	.062	.016	-.051	-.059	.003	.012
11	14.75	12.80	.320	.333	.492	.546	.618	.677	.729	.769	.835	.892	.947		.954	.894	.825	.772	.689	.584	.470	.344	.171	.115	.062	.013	-.066	-.067	.012	.013
12	17.26	14.10	.281	.285	.453	.514	.575	.641	.693	.731	.804	.863	.903	.953		.934	.851	.778	.687	.580	.471	.334	.145	.097	.049	.009	-.077	-.079	.007	.005
13	19.47	14.54	.275	.276	.451	.508	.583	.639	.684	.726	.780	.823	.854	.891	.944		.917	.829	.732	.619	.491	.372	.173	.102	.054	.028	-.071	-.063	.017	-.003
14	19.16	12.70	.256	.269	.429	.491	.559	.615	.669	.708	.752	.781	.800	.833	.874	.920		.929	.896	.796	.686	.577	.425	.217	.118	.075	.016	-.055	-.053	.010	.031
15	16.12	10.33	.222	.238	.397	.451	.517	.575	.631	.671	.708	.731	.725	.758	.795	.831	.904		.952	.852	.752	.635	.476	.246	.166	.092	.021	-.069	-.032	.019	.021
16	12.04	8.49	.197	.205	.355	.410	.465	.538	.588	.618	.644	.667	.665	.670	.700	.749	.791	.872		.922	.854	.693	.511	.335	.187	.119	.046	-.030	-.001	.042	.045
17	7.39	7.00	.175	.170	.321	.381	.433	.497	.525	.562	.577	.585	.577	.583	.612	.667	.710	.795	.872		.977	.783	.541	.358	.196	.128	.048	-.029	.043	.072	.097
18	3.13	5.96	.131	.140	.276	.319	.356	.421	.446	.481	.499	.517	.501	.506	.524	.558	.628	.704	.746	.818		.300	.608	.378	.160	.147	.082	-.013	.053	.111	.111
19	-0.46	4.86	.100	.117	.211	.245	.295	.337	.366	.403	.412	.434	.416	.412	.447	.485	.547	.635	.711	.767	.810		.220	.402	.112	.133	.114	.015	.074	.111	.153
20	-2.86	4.45	.143	.171	.243	.233	.248	.250	.316	.365	.374	.380	.347	.339	.347	.389	.427	.515	.590	.662	.644	.727		.192	.257	.115	.052	.031	.059	.083	.104
21	-4.68	4.15	.065	.074	.160	.162	.179	.213	.232	.265	.289	.302	.280	.292	.298	.327	.336	.396	.453	.504	.542	.559	.674		.429	.120	.002	.095	.113	.064
22	-5.65	4.02	.009	.002	.111	.117	.130	.147	.146	.172	.188	.197	.185	.206	.221	.243	.258	.337	.382	.464	.497	.504	.567	.703		.492	.158	.135	.177	.144
23	-6.78	4.07	.026	.033	.075	.073	.110	.111	.102	.109	.124	.132	.115	.133	.149	.181	.177	.249	.301	.369	.400	.413	.429	.545	.764		.050	.457	.139	.132	.139
24	-7.38	4.57	.036	-.008	.045	.075	.110	.118	.130	.129	.139	.146	.145	.165	.172	.172	.168	.227	.276	.324	.336	.340	.387	.478	.630	.778		.019	.537	.240	.198
25	-7.74	4.87	.074	.027	.088	.109	.158	.170	.162	.162	.157	.156	.150	.165	.162	.167	.159	.210	.274	.297	.298	.300	.321	.449	.534	.659	.837		.067	.540	.301
26	-8.01	5.19	.085	.054	.121	.128	.175	.191	.197	.184	.182	.174	.166	.187	.184	.193	.191	.216	.279	.292	.296	.280	.264	.388	.487	.612	.724	.844		.658	.634
27	-7.90	5.57	.064	.072	.139	.144	.188	.208	.201	.194	.196	.176	.158	.182	.184	.193	.199	.219	.259	.262	.265	.263	.218	.348	.430	.551	.645	.705	.665		.005

TABLE I. 6 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

JUNE

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.05	1.86	1.09	0.92	0.72	0.37	-0.08	-0.33	-0.42	-0.52	-0.86	-1.32	-2.34	-3.70	-4.73	-5.34	-4.59	-3.23	-2.24	-1.28	-0.00	-0.62	-0.49	-0.36	-0.42	-0.56	-0.58	-0.71
			SD	2.57	3.66	3.71	3.77	3.83	3.94	4.13	4.39	5.06	6.16	7.34	8.78	10.26	10.55	9.39	7.22	5.25	4.11	3.24	2.76	2.80	2.71	3.16	3.16	2.94	2.81	2.98	2.98
SFC	-0.98	2.76	-.024	.603	.427	.366	.303	.281	.244	.185	.145	.107	.051	.043	.027	.037	.079	.020	.044	.125	.142	.079	.029	-.055	-.029	.059	.007	.032	.132	.084
1	0.79	4.71	.613	.237	.790	.682	.576	.541	.485	.393	.340	.284	.197	.159	.126	.113	.155	.149	.139	.203	.236	.115	.061	.006	.073	.095	.030	.064	.070	.020
2	1.81	4.77	.424	.828	.221	.829	.669	.603	.526	.446	.395	.327	.260	.215	.181	.148	.174	.181	.186	.265	.243	.102	.055	.037	.104	.150	.071	.024	-.004	.027
3	2.32	4.67	.356	.706	.861	.193	.832	.671	.572	.515	.438	.376	.301	.276	.263	.244	.266	.287	.273	.313	.282	.151	.083	.045	.103	.166	.073	.029	-.003	.015
4	2.74	4.91	.305	.609	.735	.864	.168	.821	.686	.608	.539	.450	.362	.337	.325	.324	.337	.375	.345	.330	.295	.185	.085	.050	.103	.156	.108	.066	.001	.014
5	3.01	5.14	.258	.590	.680	.777	.859	.102	.819	.700	.625	.515	.432	.385	.359	.351	.371	.418	.404	.359	.318	.161	.113	-.020	.053	.127	.107	.089	-.003	.000
6	3.27	5.55	.274	.503	.611	.694	.759	.887	.129	.821	.739	.635	.536	.475	.449	.438	.466	.473	.448	.374	.313	.169	.084	.041	.020	.077	.066	.109	.021	.008
7	3.83	6.26	.226	.420	.535	.625	.722	.757	.886	.130	.871	.752	.651	.587	.544	.533	.547	.538	.478	.372	.314	.153	.091	.028	-.010	.044	.053	.077	.002	.024
8	4.07	6.74	.173	.324	.459	.557	.674	.723	.805	.909	.106	.884	.770	.711	.655	.618	.590	.584	.519	.376	.320	.134	.091	-.001	-.023	.061	.056	.068	-.032	.017
9	4.72	7.87	.119	.254	.405	.493	.603	.644	.736	.830	.928	.048	.895	.831	.758	.705	.670	.636	.543	.384	.320	.119	.073	-.007	-.021	.059	.058	.096	.026	.044
10	5.18	9.14	.072	.180	.331	.447	.556	.589	.681	.764	.864	.937	.022	.911	.827	.768	.704	.657	.547	.370	.288	.100	.069	-.016	-.050	.027	.036	.083	.006	.033
11	5.93	10.29	.003	.122	.284	.398	.502	.534	.629	.706	.812	.891	.949	.029	.930	.853	.758	.675	.550	.345	.254	.072	.075	-.014	-.042	.051	.046	.067	.012	.047
12	7.00	11.89	-.046	.059	.234	.361	.450	.482	.561	.661	.762	.839	.898	.953	.960	.923	.807	.710	.560	.351	.249	.082	.073	-.030	-.069	.048	.042	.047	.007	.040
13	7.75	12.39	-.081	.020	.197	.335	.422	.453	.537	.637	.729	.799	.850	.897	.950	.949	.886	.750	.584	.367	.254	.092	.071	-.011	-.066	.046	.063	.080	.024	.040
14	6.54	11.22	-.094	.008	.187	.331	.419	.443	.533	.619	.708	.764	.814	.848	.888	.936	.923	.837	.665	.435	.329	.151	.104	.017	-.066	.082	.082	.059	.017	.006
15	4.19	9.39	-.054	.020	.170	.316	.404	.433	.532	.583	.660	.699	.742	.759	.786	.822	.902	.823	.746	.541	.425	.229	.137	.020	.004	.111	.110	.118	.010	.034
16	1.04	7.01	-.045	.033	.167	.292	.361	.402	.466	.519	.575	.608	.614	.626	.650	.702	.776	.876	.016	.679	.483	.265	.202	.046	-.008	.121	.144	.128	.059	.086
17	-1.78	5.22	.041	.102	.177	.288	.336	.374	.403	.435	.483	.502	.506	.520	.552	.594	.693	.727	.826	.008	.613	.383	.231	.084	.036	.144	.115	.126	.056	.101
18	-4.61	4.29	.027	.103	.212	.268	.290	.315	.353	.374	.407	.415	.418	.412	.429	.462	.528	.621	.679	.755	.035	.530	.216	.057	.026	.092	.076	.144	.137	.155
19	-6.85	3.75	.013	.102	.179	.229	.225	.245	.285	.271	.258	.313	.330	.320	.234	.363	.435	.532	.576	.628	.754	.030	.505	.141	.027	.084	.073	.094	.130	.169
20	-8.70	3.97	-.057	.087	.146	.148	.123	.131	.172	.150	.156	.173	.182	.166	.192	.225	.297	.383	.434	.486	.568	.729	.110	.426	.127	.105	.163	.193	.175	.184
21	-10.25	3.97	-.149	.025	.120	.118	.104	.111	.156	.123	.124	.146	.142	.154	.177	.202	.256	.325	.386	.416	.451	.515	.750	.019	.545	.210	.168	.164	.106	.020
22	-11.71	3.79	-.123	-.013	.023	.035	.028	.029	.068	.079	.084	.095	.100	.125	.160	.176	.211	.289	.364	.383	.387	.438	.553	.733	.094	.576	.265	.132	.088	.034
23	-12.88	3.89	-.058	-.012	.030	.060	.050	.057	.093	.112	.121	.149	.142	.178	.208	.229	.253	.310	.359	.354	.350	.397	.294	.455	.725	.067	.561	.228	-.015	-.029
24	-13.73	4.06	.028	-.037	-.023	.025	.036	.066	.104	.113	.147	.150	.167	.198	.223	.241	.269	.310	.338	.340	.356	.378	.330	.272	.503	.766	.059	.571	.028	-.109
25	-14.57	4.32	.069	.044	.053	.127	.155	.176	.207	.220	.242	.248	.259	.265	.279	.311	.329	.352	.370	.380	.373	.384	.313	.237	.352	.524	.779	.022	.198	.023
26	-15.07	4.39	.056	.045	.050	.132	.164	.163	.211	.225	.258	.260	.284	.292	.285	.316	.333	.376	.395	.389	.368	.366	.312	.268	.315	.426	.596	.770	.077	.514
27	-15.47	4.74	.008	.003	.031	.097	.133	.122	.168	.194	.235	.254	.271	.283	.275	.303	.332	.392	.424	.410	.399	.385	.326	.322	.369	.427	.481	.601	.794	.649

TABLE I. 7 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

JULY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			SD	1.61	2.79	1.94	1.65	1.40	0.93	0.59	0.27	-0.18	-0.77	-1.49	-2.34	-3.35	-4.55	-5.01	-4.01	-2.70	-1.97	-1.14	-0.92	-0.90	-0.58	-0.35	-0.35	-0.42	-0.73	-0.79	-0.98
SFC	-0.71	2.53	1.85	.358	.334	.211	.172	.116	.096	.045	.006	.009	.017	.022	-.002	-.011	-.038	-.005	.018	-.019	.011	.089	.111	.072	-.025	-.127	-.065	.000	.019	.006	-.067
1	0.82	4.61	3.29	.630	.480	.756	.648	.506	.496	.419	.304	.234	.177	.162	.101	.069	.033	.003	.040	.013	.079	.062	.055	.060	.067	.036	.037	.055	-.057	-.003	-.064
2	1.20	4.55	3.34	.482	.864	.656	.828	.644	.558	.407	.291	.250	.193	.200	.117	.101	.053	.013	.030	.054	.122	.034	.032	.063	.107	.070	.054	.075	-.006	.020	.013
3	1.30	4.46	3.21	.468	.789	.899	.041	.803	.669	.499	.402	.341	.293	.275	.191	.169	.138	.095	.101	.139	.179	.138	.099	.089	.123	.087	.088	.103	-.003	.010	.014
4	1.28	4.63	3.51	.443	.704	.770	.873	.020	.840	.641	.539	.490	.404	.375	.283	.261	.249	.206	.248	.234	.228	.197	.139	.098	.112	.067	.071	.114	.022	.034	.064
5	0.94	4.73	3.74	.402	.666	.699	.774	.686	-.023	.820	.685	.601	.503	.473	.393	.357	.347	.312	.354	.306	.263	.229	.183	.161	.123	.091	.072	.132	.031	.092	.099
6	0.55	4.86	4.17	.371	.598	.629	.689	.791	.697	-.044	.838	.713	.617	.546	.462	.404	.383	.378	.393	.334	.246	.207	.126	.196	.162	.120	.077	.107	.044	.107	.064
7	-0.22	4.87	4.38	.329	.540	.556	.610	.705	.795	.669	.048	.833	.751	.668	.586	.518	.508	.505	.483	.412	.290	.233	.140	.179	.159	.122	.074	.086	.075	.155	.102
8	-0.70	5.16	4.75	.259	.427	.457	.526	.611	.690	.759	.878	.096	.883	.771	.679	.628	.605	.607	.571	.446	.286	.195	.137	.198	.138	.108	.074	.073	.044	.120	.091
9	-1.39	6.32	5.44	.202	.323	.366	.444	.531	.609	.672	.788	.910	.194	.890	.792	.724	.687	.686	.596	.454	.285	.206	.123	.165	.074	.095	.088	.056	.050	.106	.084
10	-1.86	7.23	6.26	.154	.268	.304	.374	.470	.544	.605	.706	.821	.917	.232	.898	.811	.755	.730	.617	.443	.289	.180	.139	.188	.062	.074	.099	.080	.082	.112	.131
11	-2.39	8.41	6.98	.110	.208	.246	.303	.401	.469	.521	.631	.755	.854	.922	.250	.916	.834	.764	.606	.412	.250	.206	.158	.155	.034	.026	.042	.056	.088	.100	.153
12	-3.19	9.26	7.52	.103	.180	.220	.272	.337	.444	.492	.605	.726	.816	.871	.945	.220	.894	.805	.633	.429	.269	.240	.177	.147	.004	.024	.050	.038	.053	.070	.119
13	-4.01	9.84	8.17	.093	.134	.187	.243	.355	.417	.458	.567	.690	.766	.813	.873	.937	.181	.878	.686	.466	.288	.265	.221	.185	.030	.036	.048	.055	.081	.109	.111
14	-4.37	8.41	7.39	.029	.092	.169	.231	.336	.369	.408	.522	.635	.704	.756	.796	.840	.907	.197	.763	.543	.372	.304	.249	.217	.072	.038	.039	.047	.114	.110	.098
15	-5.04	6.13	5.68	.048	.103	.177	.242	.323	.356	.373	.486	.565	.621	.658	.682	.717	.753	.835	.167	.713	.434	.374	.331	.260	.177	.063	.054	.081	.136	.132	.123
16	-5.41	4.68	4.31	.048	.144	.206	.250	.287	.308	.326	.407	.426	.444	.442	.467	.465	.495	.567	.719	.256	.541	.315	.335	.280	.158	.081	.062	.081	.148	.172	.169
17	-6.51	3.72	3.58	.112	.174	.229	.285	.255	.271	.254	.298	.290	.296	.286	.301	.297	.303	.344	.489	.669	.184	.377	.198	.212	.126	.108	.101	.124	.128	.130	.114
18	-8.58	3.02	2.99	.198	.252	.256	.273	.278	.267	.225	.274	.266	.273	.264	.284	.288	.293	.306	.373	.413	.503	-.011	.431	.137	.047	-.007	-.061	.012	.106	.152	.172
19	-10.85	2.88	2.79	.071	.195	.214	.233	.162	.155	.166	.190	.167	.217	.212	.232	.222	.244	.240	.265	.288	.309	.446	.163	.415	-.111	-.232	-.157	.062	.141	.134	.153
20	-13.28	3.65	2.56	-.107	.101	.181	.194	.123	.117	.109	.113	.143	.140	.130	.164	.148	.158	.184	.203	.259	.296	.265	.635	.058	.251	.027	-.074	-.028	.063	.119	.128
21	-15.32	3.69	2.80	-.098	.079	.174	.194	.135	.154	.164	.138	.160	.166	.160	.169	.154	.150	.163	.179	.232	.280	.216	.427	.740	-.223	.505	.147	.056	.008	.051	.060
22	-16.73	3.39	3.33	.035	.135	.182	.195	.184	.158	.194	.194	.206	.212	.188	.185	.176	.159	.148	.177	.209	.190	.208	.309	.404	.594	-.200	.596	.181	-.022	-.072	-.100
23	-17.00	3.42	3.29	.144	.154	.156	.184	.172	.177	.156	.174	.181	.163	.161	.166	.176	.187	.140	.177	.174	.179	.229	.233	.170	.269	.586	-.075	.527	.086	-.110	-.119
24	-19.12	3.48	2.99	.148	.155	.120	.151	.143	.175	.178	.187	.181	.176	.154	.147	.170	.173	.104	.122	.102	.157	.211	.176	.081	.057	.296	.639	-.113	.453	.071	-.047
25	-20.03	3.78	2.79	.173	.147	.081	.093	.120	.144	.192	.184	.170	.168	.164	.186	.194	.190	.118	.123	.117	.150	.133	.157	.046	.063	.209	.410	.619	-.022	.416	.121
26	-20.62	4.37	2.56	.158	.176	.132	.159	.204	.210	.234	.216	.227	.219	.215	.233	.233	.214	.147	.136	.077	.113	.119	.111	.068	.085	.220	.351	.426	.761	-.119	.469
27	-21.07	4.70	2.80	.216	.169	.106	.135	.159	.178	.176	.158	.177	.165	.165	.166	.190	.184	.124	.129	.037	.106	.097	.104	.042	.053	.148	.306	.327	.489	.672	-.066

TABLE I. 8 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

AUGUST

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN		0.61	1.55	1.06	0.93	1.19	1.09	0.59	0.47	-0.08	-0.26	-0.52	-0.67	-1.21	-2.20	-2.86	-2.18	-1.59	-1.05	-0.72	-0.67	-0.51	-0.33	-0.30	-0.10	-0.13	-0.26	-0.78	-1.24
			SD		2.10	3.26	3.26	3.42	3.59	4.01	4.36	4.80	5.13	5.67	6.90	7.84	7.70	5.00	7.74	5.31	4.03	3.28	2.97	2.60	2.45	2.54	2.78	2.58	2.96	2.83	2.78	3.06
SFC	-0.57	2.39	.079	.522	.355	.268	.194	.106	.076	.022	-.030	-.086	-.140	-.148	-.152	-.167	-.190	-.241	-.170	-.106	-.014	.029	.018	-.013	-.048	-.079	-.058	.007	.035	.077	
1	0.19	4.43	.617	.079	.814	.666	.551	.451	.409	.319	.225	.108	.014	-.055	-.095	-.111	-.109	-.097	-.039	.094	.029	-.079	-.064	.032	.049	.034	.034	-.013	-.008	-.024		
2	0.59	4.31	.466	.868	.203	.837	.674	.555	.511	.424	.316	.210	.117	.059	.009	.003	-.008	-.009	-.051	.193	.037	-.074	-.043	.051	.088	.080	.044	-.021	-.036	-.001		
3	0.83	4.44	.479	.771	.872	.184	.832	.676	.604	.509	.385	.277	.200	.150	.095	.094	.110	.132	.152	.223	.126	-.029	-.036	.021	.063	.058	.078	.038	.042	.064		
4	0.99	4.51	.452	.698	.769	.894	.208	.825	.710	.595	.464	.345	.277	.213	.141	.127	.134	.181	.245	.321	.204	.036	-.031	-.004	-.004	.064	.066	.046	.108	.111		
5	0.98	4.83	.438	.687	.746	.827	.902	.175	.657	.724	.576	.447	.354	.285	.229	.222	.240	.278	.326	.313	.211	.080	-.016	.022	-.035	.006	.056	.065	.093	.133		
6	0.63	4.99	.337	.572	.653	.718	.789	.903	.238	.865	.733	.599	.496	.424	.376	.369	.371	.407	.367	.347	.237	.070	-.024	.028	-.003	-.006	.034	.064	.093	.120		
7	0.36	5.08	.281	.459	.554	.608	.687	.795	.896	.272	.869	.734	.631	.552	.508	.495	.496	.523	.489	.407	.249	.064	.010	.083	.016	.034	.047	.080	.122	.103		
8	0.05	5.36	.218	.325	.440	.508	.564	.669	.784	.873	.232	.890	.782	.698	.643	.624	.598	.614	.530	.428	.271	.045	.019	.067	.017	.058	.061	.094	.131	.115		
9	-0.20	5.79	.161	.218	.314	.390	.440	.543	.652	.747	.883	.306	.897	.816	.765	.744	.693	.664	.544	.455	.267	.061	.042	.084	.019	.075	.076	.096	.089	.096		
10	-0.15	6.70	.078	.125	.232	.317	.357	.451	.549	.638	.774	.913	.376	.935	.865	.821	.770	.701	.536	.455	.266	.122	.094	.072	.004	.077	.058	.115	.094	.111		
11	-0.27	7.74	.045	.027	.133	.226	.210	.351	.456	.538	.652	.824	.924	.378	.940	.879	.808	.717	.556	.440	.268	.135	.075	.051	-.020	.068	.037	.102	.100	.110		
12	-0.48	8.80	.004	-.037	.076	.177	.220	.291	.392	.473	.629	.751	.849	.943	.365	.936	.840	.734	.567	.427	.276	.147	.083	.052	-.014	.034	.010	.086	.077	.096		
13	-0.54	9.04	-.014	-.080	.035	.156	.202	.261	.362	.455	.603	.720	.804	.875	.938	.330	.902	.773	.594	.447	.284	.159	.081	.070	-.019	.030	.017	.076	.058	.083		
14	-1.19	8.18	-.036	-.056	.057	.163	.211	.278	.388	.471	.620	.725	.788	.825	.864	.912	.353	.833	.613	.459	.274	.165	.083	.069	-.043	.028	.005	.114	.070	.072		
15	-2.33	6.19	-.020	-.015	.114	.229	.270	.333	.429	.494	.627	.659	.724	.731	.754	.795	.878	.313	.721	.477	.295	.140	.087	.072	-.009	.066	.068	.069	.069	.117		
16	-3.75	4.48	.001	.052	.167	.249	.292	.351	.440	.490	.573	.589	.582	.563	.575	.615	.671	.768	.356	.551	.311	.214	.136	.082	-.025	.051	.059	.100	.128	.139		
17	-5.77	3.71	.046	.143	.215	.261	.300	.325	.367	.380	.388	.398	.395	.367	.363	.399	.481	.535	.664	.207	.366	.156	.155	.134	.073	.138	.100	.087	.114	.130		
18	-8.13	3.16	.097	.209	.251	.303	.334	.339	.327	.342	.320	.295	.271	.253	.232	.261	.337	.408	.488	.585	.056	.430	.057	-.001	-.071	-.052	-.087	.051	.110	.185		
19	-10.61	3.26	-.049	.126	.206	.223	.231	.248	.247	.252	.266	.232	.235	.226	.178	.190	.248	.325	.395	.414	.575	.193	.392	-.078	-.236	-.225	-.117	.085	.094	.218		
20	-13.15	3.52	-.118	.073	.147	.182	.143	.149	.170	.163	.208	.204	.235	.230	.159	.209	.239	.303	.288	.277	.326	.716	.039	.259	-.116	-.134	-.048	.063	.080	.116		
21	-15.20	3.44	-.101	.043	.096	.098	.077	.110	.158	.164	.187	.159	.185	.176	.173	.179	.208	.254	.278	.249	.245	.500	.694	-.022	.381	.068	.021	-.038	.036	.062		
22	-16.78	3.38	-.107	-.006	.023	.042	.039	.073	.106	.116	.141	.146	.156	.150	.152	.168	.213	.263	.283	.279	.278	.404	.512	.721	-.116	.545	.129	-.022	-.039	-.035		
23	-17.84	3.45	-.027	.028	.001	.046	.052	.085	.114	.120	.132	.160	.153	.128	.125	.148	.208	.254	.242	.244	.299	.313	.352	.416	.642	.059	.518	.059	-.005	-.169		
24	-18.76	3.65	-.024	-.015	-.004	.043	.062	.102	.116	.136	.125	.127	.133	.137	.151	.162	.199	.238	.234	.159	.265	.202	.194	.222	.256	.642	.078	.433	.060	-.134		
25	-19.64	3.85	-.025	-.021	-.013	.013	.065	.116	.138	.149	.149	.141	.136	.134	.149	.173	.212	.217	.192	.202	.265	.131	.134	.141	.203	.400	.666	.015	.409	.037		
26	-20.13	4.20	-.027	-.052	-.063	-.042	-.005	.035	.086	.114	.114	.108	.093	.098	.108	.139	.167	.165	.134	.162	.180	.064	.092	.129	.179	.310	.421	.681	-.036	.381		
27	-21.07	4.44	-.043	-.105	-.087	-.057	-.030	.005	.078	.123	.125	.140	.126	.122	.141	.157	.183	.163	.128	.124	.178	.103	.171	.160	.174	.256	.284	.419	.663	-.060		

TABLE I. 9 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES. FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

SEPTEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL MEAN SD	ALTITUDE (MSL)km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.31	0.54	0.45	0.63	0.69	0.55	0.32	0.51	0.39	0.40	0.05	-0.37	-0.91	-1.51	-2.10	-1.79	-1.48	-0.69	-0.43	-0.55	-0.48	-0.12	-0.18	-0.32	-0.58	-0.84	-1.02	-1.13
			SD	2.82	4.68	4.46	4.21	4.29	4.62	5.03	5.38	5.96	6.78	7.92	8.99	10.03	10.35	9.57	7.48	5.15	3.60	3.05	2.64	2.47	2.65	2.67	2.60	2.71	2.99	2.83	3.19
SFC	-1.83	2.98		.275	.718	.566	.446	.378	.325	.325	.225	.147	.029	-.017	-.067	-.152	-.165	-.146	-.139	-.061	-.010	.063	.067	.118	.067	.047	.066	.046	-.071	-.058	.088
1	-2.58	5.46		.754	.266	.869	.733	.629	.532	.487	.386	.260	.163	.105	.034	-.052	-.078	-.079	-.085	-.031	-.016	.080	.079	.072	.068	.072	.037	.043	-.023	-.003	.048
2	-1.41	5.57		.616	.900	.223	.876	.747	.640	.571	.490	.395	.282	.206	.131	.054	.038	.029	.012	.050	.039	.095	.067	.079	.098	.057	.066	.071	.008	.007	.086
3	-0.47	5.48		.561	.809	.908	.702	.884	.756	.673	.586	.490	.383	.306	.222	.137	.119	.114	.114	.147	.118	.142	.107	.087	.077	.055	.080	.052	-.022	.007	.115
4	0.11	5.45		.501	.733	.821	.913	.256	.868	.776	.685	.582	.474	.386	.292	.204	.187	.175	.215	.262	.216	.184	.165	.118	.051	.042	.056	.036	-.052	-.014	.094
5	0.35	5.54		.449	.674	.749	.826	.914	.296	.872	.780	.674	.545	.434	.340	.251	.229	.239	.286	.338	.267	.209	.185	.132	.061	.032	.062	.045	-.048	-.021	.059
6	0.70	5.51		.365	.567	.635	.720	.797	.899	.288	.877	.733	.611	.488	.389	.310	.294	.319	.367	.417	.286	.171	.178	.125	.087	.061	.069	.061	-.023	-.018	.076
7	1.23	5.86		.320	.487	.568	.653	.719	.823	.891	.377	.881	.769	.642	.531	.444	.415	.432	.474	.486	.347	.214	.197	.133	.110	.067	.075	.070	-.005	.008	.074
8	1.91	6.37		.218	.370	.475	.572	.638	.720	.785	.898	.438	.888	.755	.634	.535	.511	.507	.540	.535	.401	.233	.198	.137	.125	.047	.045	.034	-.002	.043	.121
9	2.94	7.22		.141	.249	.369	.477	.535	.603	.667	.798	.908	.472	.904	.794	.703	.657	.611	.598	.553	.411	.250	.199	.128	.088	.021	.033	-.001	.016	.066	.134
10	3.74	8.16		.077	.161	.285	.393	.448	.511	.579	.715	.821	.924	.433	.919	.823	.769	.699	.644	.572	.417	.278	.213	.114	.075	.019	.029	-.010	.045	.066	.106
11	4.62	9.41		-.019	.048	.178	.285	.341	.407	.489	.625	.752	.853	.934	.378	.521	.858	.762	.679	.567	.417	.289	.211	.125	.078	.010	.049	.023	.074	.081	.064
12	5.52	10.14		-.082	-.029	.102	.208	.264	.324	.417	.543	.678	.785	.862	.942	.312	.941	.843	.727	.592	.425	.298	.237	.150	.062	-.011	.053	.041	.086	.100	.050
13	5.60	10.56		-.106	-.066	.067	.174	.223	.283	.384	.503	.631	.726	.797	.871	.543	.297	.906	.774	.626	.454	.319	.258	.186	.104	-.018	.039	.075	.104	.097	.019
14	4.38	9.93		-.150	-.089	.032	.132	.193	.269	.377	.501	.622	.686	.737	.791	.650	.910	.240	.881	.708	.514	.334	.274	.225	.133	-.035	.027	.082	.079	.069	.018
15	2.11	8.32		-.147	-.079	.051	.160	.222	.285	.389	.506	.614	.665	.704	.745	.783	.821	.906	.151	.820	.612	.391	.285	.221	.166	-.026	.004	.034	.054	.049	.031
16	-0.25	6.44		-.116	-.007	.132	.244	.307	.372	.475	.545	.652	.680	.692	.705	.728	.748	.803	.872	.209	.661	.415	.332	.197	.143	-.013	-.031	.019	.042	.032	.059
17	-2.06	5.40		-.061	.056	.171	.260	.311	.367	.458	.509	.583	.591	.582	.575	.584	.607	.678	.734	.827	.124	.508	.285	.202	.142	.047	.000	.019	.027	.026	.029
18	-3.99	4.57		-.000	.093	.177	.260	.292	.318	.397	.430	.487	.492	.478	.469	.487	.516	.573	.630	.717	.780	.139	.386	.124	.101	.028	.031	.073	.072	.120	.065
19	-6.12	4.07		-.018	.087	.168	.246	.305	.316	.373	.387	.418	.418	.398	.382	.389	.412	.483	.552	.622	.624	.721	.137	.300	-.062	.025	-.010	.082	.097	.079	.111
20	-8.21	4.06		-.032	.057	.182	.248	.303	.335	.396	.365	.380	.361	.336	.322	.324	.337	.390	.433	.506	.555	.574	.738	.120	.236	-.092	-.060	.032	.057	.091	.078
21	-9.86	3.63		-.012	.119	.220	.269	.315	.335	.362	.360	.366	.339	.320	.288	.275	.295	.344	.371	.449	.507	.485	.563	.717	.033	.334	.047	.012	.035	.106	.181
22	-11.15	3.55		-.000	.081	.146	.194	.220	.251	.319	.307	.301	.278	.266	.239	.238	.254	.295	.305	.367	.433	.404	.485	.549	.657	-.008	.361	.063	.020	.094	.124
23	-12.01	3.72		.025	.111	.164	.220	.266	.306	.332	.323	.318	.292	.257	.251	.250	.260	.300	.327	.388	.405	.360	.428	.520	.518	.707	.008	.412	.068	-.034	-.013
24	-12.56	3.94		.061	.126	.178	.229	.274	.325	.331	.338	.304	.257	.231	.224	.212	.216	.253	.291	.321	.336	.309	.397	.450	.461	.516	.760	.006	.447	.053	-.071
25	-13.23	4.26		.048	.137	.197	.243	.282	.329	.317	.296	.278	.226	.195	.204	.204	.202	.247	.257	.291	.298	.278	.359	.451	.465	.486	.590	.799	.032	.414	.001
26	-13.65	4.64		.110	.168	.223	.252	.267	.256	.283	.262	.247	.210	.181	.163	.158	.156	.202	.218	.274	.288	.282	.356	.438	.424	.483	.540	.633	.805	.031	.434
27	-13.83	5.17		.148	.165	.209	.241	.252	.263	.247	.235	.200	.165	.149	.128	.122	.141	.182	.212	.241	.241	.252	.355	.391	.445	.449	.490	.566	.654	.794	-.094

TABLE I. 10 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: **ZONAL MEAN VALUES** - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

OCTOBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			-1.59	-1.68	-0.82	-0.45	-0.32	-0.41	-0.30	-0.51	-0.63	-0.72	-0.72	-1.07	-1.26	-1.83	-2.07	-1.67	-1.50	-0.88	-0.93	-0.63	-0.19	-0.30	-0.59	-0.48	-0.35	-0.48	-0.74	-1.02
		SD	3.15	5.11	4.94	4.98	5.25	5.93	6.61	7.46	8.24	9.34	11.22	13.01	13.73	12.25	9.85	7.66	5.96	4.42	3.57	3.39	3.10	2.77	2.99	2.64	2.96	3.07	2.99	3.20
SFC	-0.98	3.39	.060	.742	.561	.495	.442	.446	.410	.317	.213	.131	.072	-.014	-.048	-.097	-.101	-.070	.004	-.002	-.061	.052	.060	-.049	-.009	-.044	-.055	-.078	-.110	-.039
1	-1.46	5.81	.727	.247	.827	.712	.600	.548	.488	.385	.296	.203	.132	.050	.002	-.049	-.070	-.037	.032	.043	-.008	.027	.126	.004	.064	.007	-.006	-.056	-.105	-.083
2	0.85	6.20	.631	.884	.290	.850	.734	.648	.588	.495	.411	.321	.237	.169	.135	.109	.102	.127	.179	.168	.111	.092	.146	.032	.049	-.002	.008	-.043	-.079	-.044
3	2.68	6.50	.576	.779	.894	.249	.867	.759	.701	.640	.561	.470	.386	.317	.272	.232	.231	.282	.326	.310	.206	.173	.206	.040	.050	.011	.007	-.048	-.093	-.035
4	4.30	6.71	.523	.703	.811	.918	.194	.874	.823	.758	.662	.579	.495	.422	.378	.340	.345	.391	.425	.383	.273	.212	.229	.057	.082	.028	-.003	-.014	-.069	-.041
5	6.05	7.07	.500	.638	.734	.826	.922	.234	.914	.846	.742	.663	.588	.497	.447	.402	.400	.434	.458	.419	.326	.224	.237	.081	.127	.042	.017	.004	-.034	-.034
6	7.85	7.73	.436	.551	.654	.760	.860	.932	.200	.919	.825	.747	.670	.587	.533	.490	.481	.501	.491	.420	.317	.195	.209	.092	.135	.024	-.007	.010	-.047	-.047
7	9.81	8.82	.381	.457	.581	.689	.794	.859	.929	.149	.910	.824	.754	.672	.613	.560	.548	.566	.539	.463	.319	.187	.204	.087	.146	.033	.011	.026	-.045	-.028
8	12.06	9.84	.290	.382	.510	.637	.743	.795	.868	.933	.111	.925	.845	.780	.715	.657	.631	.643	.581	.462	.332	.164	.180	.092	.158	.032	.007	.026	-.027	-.015
9	14.23	11.29	.219	.290	.422	.559	.672	.732	.806	.871	.945	.061	.933	.874	.810	.741	.691	.683	.609	.460	.339	.160	.163	.073	.124	.023	.012	.027	-.051	-.004
10	16.28	12.70	.151	.209	.354	.489	.594	.652	.730	.806	.887	.955	.043	.945	.880	.794	.731	.699	.606	.461	.326	.166	.162	.062	.113	.036	.024	.032	-.043	-.013
11	18.29	13.79	.104	.153	.314	.442	.545	.557	.679	.752	.838	.905	.956	.910	.841	.852	.785	.730	.626	.464	.343	.152	.162	.068	.100	.040	.024	.030	-.032	-.015
12	19.61	13.86	.086	.125	.294	.429	.520	.566	.642	.721	.812	.870	.920	.956	.904	.928	.844	.784	.671	.492	.366	.153	.144	.032	.062	.001	-.013	-.023	-.072	-.038
13	19.59	13.33	.066	.096	.264	.389	.487	.542	.610	.681	.760	.808	.852	.883	.928	.904	.906	.810	.698	.518	.361	.126	.102	.011	.023	.001	-.054	-.027	-.059	-.042
14	17.89	12.39	.079	.105	.267	.388	.473	.519	.586	.657	.729	.780	.808	.822	.863	.916	.902	.867	.750	.561	.398	.167	.127	.023	.049	.005	-.050	-.001	-.016	-.008
15	14.93	10.39	.075	.109	.274	.405	.491	.538	.585	.646	.716	.771	.782	.792	.822	.856	.906	.949	.849	.651	.467	.225	.176	.101	.132	.082	.020	.042	.000	.005
16	10.54	8.27	.136	.147	.294	.417	.497	.531	.575	.632	.688	.741	.746	.754	.789	.822	.847	.895	.952	.753	.537	.293	.277	.152	.168	.122	.068	-.001	-.060	-.022
17	6.09	6.65	.146	.147	.295	.404	.478	.518	.557	.600	.643	.689	.702	.706	.726	.758	.784	.825	.872	.675	.623	.325	.274	.175	.182	.108	.071	.045	-.052	-.053
18	2.45	5.45	.077	.068	.188	.286	.343	.384	.418	.450	.488	.523	.522	.540	.565	.618	.665	.669	.703	.740	.113	.379	.260	.208	.168	.125	.155	.140	.050	-.055
19	-0.35	4.85	.070	.072	.199	.286	.338	.380	.417	.446	.463	.508	.521	.555	.575	.583	.585	.648	.657	.663	.707	.210	.455	.178	.121	.196	.206	.086	-.028	-.004
20	-1.76	4.58	.084	.062	.184	.274	.322	.356	.380	.417	.421	.454	.471	.489	.506	.550	.563	.592	.619	.622	.607	.690	.174	.430	.165	.175	.180	.134	-.011	.014
21	-2.43	4.22	.082	.097	.178	.247	.283	.323	.320	.331	.359	.381	.387	.405	.419	.468	.451	.485	.527	.525	.517	.489	.633	.158	.428	.162	.232	.187	.100	.060
22	-2.93	4.25	.126	.138	.198	.256	.266	.285	.276	.290	.323	.343	.337	.355	.353	.402	.391	.422	.437	.432	.443	.375	.470	.722	.015	.528	.219	.156	.161	.135
23	-3.46	4.43	.098	.087	.172	.221	.197	.205	.172	.205	.227	.221	.227	.248	.271	.329	.316	.346	.366	.364	.367	.301	.441	.555	.698	.015	.498	.202	.070	.128
24	-3.51	4.71	.129	.114	.174	.199	.200	.212	.196	.239	.256	.244	.244	.264	.277	.327	.305	.330	.365	.361	.329	.328	.409	.531	.583	.755	.006	.498	.149	.068
25	-3.18	5.13	.096	.074	.112	.124	.146	.153	.128	.165	.185	.191	.200	.209	.228	.291	.280	.286	.331	.316	.313	.269	.375	.498	.513	.615	.759	.003	.445	.028
26	-2.28	5.79	.137	.112	.135	.150	.163	.175	.161	.189	.212	.235	.237	.242	.259	.291	.270	.305	.332	.327	.336	.281	.376	.469	.549	.603	.714	.800	.090	.432
27	-1.53	6.32	.157	.057	.104	.130	.146	.155	.133	.174	.197	.218	.212	.222	.240	.257	.238	.264	.313	.241	.264	.246	.318	.421	.502	.558	.664	.705	.839	.085

TABLE I. II INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

NOVEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-1.22	-0.59	-0.16	-0.11	-0.13	0.06	0.16	0.23	0.12	0.31	0.12	-0.38	-0.89	-0.72	-0.82	-0.53	-0.47	-0.25	-0.23	-0.11	-0.27	-0.26	-0.23	0.10	0.12	0.02	0.02	0.18
			SD	3.21	5.74	5.59	5.65	6.08	6.75	7.74	8.86	10.11	11.48	13.05	14.74	15.18	13.98	11.55	9.09	7.47	6.14	4.70	4.10	3.47	3.22	3.40	3.39	3.47	3.52	4.07	4.25
SFC	0.02	3.13		-.251	.721	.575	.491	.440	.383	.341	.268	.217	.181	.144	.104	.072	.023	.022	.020	.004	-.002	-.033	.010	-.012	-.016	-.027	-.024	-.015	.046	.041	.044
1	-0.38	6.82		.559	.131	.834	.715	.646	.583	.499	.400	.330	.299	.241	.208	.175	.126	.125	.133	.085	.070	.069	.079	.049	.038	.007	.063	.111	.074	.065	
2	2.45	7.21		.525	.868	.173	.848	.761	.696	.634	.560	.477	.456	.377	.334	.303	.257	.273	.289	.238	.211	.216	.191	.137	.102	.019	.035	.076	.102	.060	.023
3	5.03	7.67		.526	.784	.886	.173	.876	.780	.714	.649	.576	.554	.476	.436	.394	.350	.359	.372	.334	.309	.317	.271	.213	.145	.070	.100	.139	.138	.095	.049
4	7.23	7.92		.517	.737	.829	.910	.206	.895	.805	.737	.673	.638	.566	.522	.485	.448	.462	.467	.427	.364	.371	.285	.215	.174	.088	.086	.100	.126	.086	.036
5	9.78	8.64		.512	.675	.764	.854	.940	.266	.812	.826	.761	.730	.668	.617	.587	.547	.532	.558	.507	.439	.432	.314	.222	.175	.108	.077	.087	.111	.068	.026
6	12.46	9.67		.479	.634	.724	.811	.887	.939	.317	.823	.863	.826	.774	.719	.675	.636	.625	.637	.604	.512	.484	.371	.246	.176	.117	.076	.071	.093	.033	-.001
7	15.19	10.36		.482	.593	.694	.776	.848	.854	.947	.337	.932	.876	.833	.768	.723	.684	.681	.674	.642	.541	.522	.391	.249	.186	.120	.088	.079	.085	.009	-.021
8	18.05	11.39		.450	.513	.628	.725	.761	.831	.886	.948	.361	.939	.883	.829	.782	.743	.738	.724	.681	.581	.553	.411	.270	.209	.114	.058	.039	.024	-.023	-.030
9	21.05	12.57		.406	.444	.579	.686	.740	.785	.836	.895	.938	.416	.938	.881	.839	.788	.762	.757	.693	.595	.555	.445	.309	.239	.126	.073	.043	-.001	-.038	-.045
10	23.85	14.14		.371	.400	.541	.640	.698	.740	.792	.849	.893	.950	.443	.947	.906	.851	.805	.781	.716	.618	.561	.458	.292	.259	.153	.090	.033	-.022	-.044	-.041
11	26.60	14.37		.361	.366	.502	.598	.657	.702	.758	.814	.847	.908	.944	.428	.956	.889	.836	.794	.730	.622	.554	.468	.314	.238	.145	.061	.036	-.024	-.048	-.047
12	28.53	14.98		.316	.334	.476	.575	.634	.674	.730	.783	.812	.870	.910	.951	.440	.946	.878	.820	.761	.656	.580	.480	.330	.270	.161	.064	.056	-.028	-.044	-.028
13	28.78	14.20		.292	.312	.448	.550	.606	.637	.683	.733	.765	.819	.858	.885	.930	.408	.917	.843	.768	.665	.576	.482	.334	.293	.183	.074	.047	-.026	-.036	-.045
14	26.51	12.71		.266	.322	.439	.525	.582	.609	.668	.700	.723	.744	.771	.798	.827	.899	.392	.879	.824	.719	.636	.524	.343	.291	.186	.079	.051	-.014	-.028	-.040
15	22.68	10.45		.238	.334	.424	.515	.577	.601	.645	.679	.691	.692	.710	.715	.757	.819	.880	.387	.876	.745	.677	.557	.364	.287	.169	.071	.034	-.042	-.077	-.077
16	18.16	8.81		.207	.288	.367	.487	.528	.550	.582	.612	.623	.631	.636	.630	.663	.737	.781	.864	.347	.844	.731	.625	.388	.300	.184	.101	.056	-.029	-.085	-.069
17	13.50	7.58		.181	.234	.331	.424	.465	.470	.513	.529	.535	.549	.552	.565	.595	.669	.702	.753	.842	.240	.818	.650	.411	.300	.195	.164	.104	.022	-.030	-.034
18	8.78	6.59		.167	.218	.294	.390	.415	.422	.458	.487	.491	.501	.510	.496	.524	.573	.627	.700	.732	.784	.226	.707	.443	.341	.188	.179	.115	.022	-.045	-.062
19	5.64	5.70		.201	.195	.278	.364	.381	.389	.436	.433	.444	.478	.472	.457	.499	.533	.566	.614	.639	.664	.724	.225	.590	.436	.281	.203	.149	.023	-.050	-.074
20	3.55	5.11		.144	.090	.174	.244	.230	.225	.273	.283	.317	.326	.356	.310	.354	.400	.414	.440	.470	.489	.516	.646	.167	.548	.354	.282	.194	.047	.034	.013
21	2.71	5.36		.089	.014	.043	.107	.076	.067	.093	.100	.140	.139	.151	.137	.154	.218	.238	.288	.296	.349	.387	.478	.683	.193	.543	.363	.276	.163	.180	.098
22	2.76	5.87		.009	-.000	.011	.052	.030	.033	.046	.044	.059	.062	.071	.070	.082	.131	.133	.167	.191	.233	.283	.381	.573	.769	.108	.628	.344	.319	.314	.247
23	3.57	6.46		-.008	-.013	-.028	.010	.014	.006	.016	.011	.028	.027	.042	.011	.022	.079	.065	.107	.116	.155	.172	.275	.502	.678	.801	.159	.579	.411	.390	.315
24	4.70	7.15		-.055	-.045	-.071	-.042	-.059	-.057	-.055	-.057	-.041	-.050	-.041	-.071	-.061	-.023	-.030	.007	.022	.042	.074	.166	.390	.589	.693	.822	.145	.655	.461	.378
25	6.48	8.03		-.046	-.041	-.093	-.072	-.080	-.068	-.062	-.062	-.063	-.081	-.075	-.106	-.099	-.071	-.085	-.032	-.017	.008	.008	.104	.316	.513	.655	.764	.648	.212	.700	.430	
26	8.15	8.37		-.060	-.056	-.091	-.074	-.080	-.065	-.069	-.067	-.074	-.086	-.075	-.098	-.090	-.057	-.080	-.033	-.030	.009	-.004	.073	.283	.498	.612	.745	.800	.904	.223	.723	
27	9.93	9.15		-.049	.018	-.033	-.018	-.044	-.031	-.038	-.038	-.048	-.057	-.045	-.070	-.065	-.041	-.074	-.019	-.013	.005	.000	.038	.240	.449	.575	.701	.758	.835	.910	.196	

TABLE I. 12 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

DECEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / MERIDIONAL SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-1.31	-0.14	0.65	0.74	1.23	2.15	2.31	2.80	3.36	3.88	4.34	4.38	4.86	5.25	4.87	4.31	3.91	3.34	2.62	1.79	1.17	1.15	0.73	0.81	1.21	1.29	1.35	1.80
			MERIDIONAL SD	3.07	5.73	5.32	5.70	6.54	7.89	8.78	9.75	10.94	12.45	14.15	15.29	15.89	14.50	11.83	9.32	8.72	7.91	6.58	5.37	4.40	4.12	3.55	3.79	3.70	4.17	4.44	4.66
SFC	0.80	3.07	-.264	.689	.488	.422	.358	.306	.243	.178	.149	.120	.057	-.009	-.007	-.012	.017	.056	.033	.043	.068	.050	.009	-.094	-.126	-.083	-.007	.024	.030	.045
1	1.38	7.10	.636	.042	.742	.576	.486	.414	.338	.243	.191	.154	.069	-.004	-.033	-.047	-.011	.036	.022	.025	.039	.038	.018	-.067	-.135	-.077	-.046	-.001	.013	.021
2	4.85	7.62	.618	.880	.074	.823	.707	.621	.543	.486	.448	.398	.293	.225	.191	.189	.215	.245	.228	.198	.201	.159	.115	.025	-.050	-.023	.030	.061	.035	.069
3	8.29	7.97	.597	.749	.859	.115	.872	.801	.729	.668	.631	.581	.488	.410	.383	.380	.341	.418	.385	.378	.350	.263	.228	.119	.049	-.002	.049	.056	.073	.114
4	11.84	8.52	.541	.654	.810	.916	.196	.867	.831	.781	.746	.695	.610	.540	.501	.497	.501	.512	.455	.481	.437	.362	.290	.182	.058	.059	.100	.069	.067	.138
5	14.75	9.43	.526	.598	.746	.851	.931	.218	.917	.862	.809	.753	.662	.579	.545	.543	.527	.535	.530	.520	.464	.376	.308	.203	.107	.058	.138	.109	.065	.137
6	17.85	9.97	.491	.540	.693	.805	.872	.929	.259	.935	.882	.827	.756	.686	.640	.625	.556	.604	.594	.563	.509	.422	.262	.265	.187	.109	.151	.108	.093	.146
7	21.16	10.95	.483	.501	.660	.765	.829	.883	.944	.289	.942	.883	.821	.760	.717	.692	.655	.649	.635	.608	.538	.458	.356	.286	.205	.113	.164	.111	.087	.148
8	24.62	12.32	.476	.471	.618	.734	.789	.832	.892	.948	.342	.942	.868	.817	.766	.747	.712	.693	.672	.640	.565	.496	.384	.325	.250	.144	.198	.122	.055	.167
9	28.14	14.09	.450	.438	.578	.697	.732	.763	.826	.885	.950	.349	.943	.877	.808	.783	.745	.713	.676	.634	.556	.489	.369	.320	.246	.136	.211	.115	.110	.167
10	31.38	15.54	.440	.422	.566	.680	.703	.735	.799	.849	.910	.962	.340	.943	.873	.833	.781	.725	.698	.665	.572	.521	.400	.354	.296	.154	.207	.104	.122	.189
11	33.79	15.66	.425	.407	.548	.652	.666	.696	.755	.803	.857	.904	.944	.350	.942	.889	.835	.773	.738	.685	.592	.542	.443	.360	.337	.189	.218	.081	.131	.211
12	35.73	15.48	.396	.402	.525	.621	.622	.650	.710	.744	.755	.845	.895	.938	.211	.939	.861	.798	.762	.718	.618	.570	.469	.385	.335	.182	.224	.057	.146	.217
13	36.34	14.31	.390	.384	.519	.623	.638	.652	.709	.732	.772	.796	.835	.876	.914	.352	.913	.840	.799	.752	.665	.605	.489	.421	.335	.169	.236	.130	.174	.225
14	34.96	12.93	.389	.364	.508	.604	.626	.648	.694	.719	.759	.777	.802	.830	.851	.900	.411	.902	.838	.783	.711	.659	.542	.424	.375	.205	.249	.143	.175	.215
15	31.73	11.61	.324	.344	.481	.578	.618	.635	.679	.699	.730	.731	.751	.786	.821	.845	.903	.330	.887	.821	.775	.695	.557	.449	.356	.183	.158	.090	.146	.185
16	27.12	9.94	.284	.287	.446	.536	.580	.581	.619	.633	.645	.643	.660	.684	.720	.762	.796	.851	.226	.882	.798	.719	.587	.454	.360	.163	.201	.121	.156	.220
17	22.37	8.67	.268	.250	.410	.503	.535	.537	.562	.557	.560	.545	.565	.584	.629	.681	.717	.711	.824	.284	.845	.751	.624	.452	.330	.128	.168	.104	.144	.213
18	17.22	7.66	.203	.187	.321	.446	.485	.475	.490	.475	.470	.468	.477	.494	.513	.573	.600	.621	.660	.770	.260	.803	.554	.457	.349	.184	.192	.131	.131	.194
19	12.72	7.29	.182	.123	.256	.369	.385	.380	.399	.411	.416	.426	.442	.445	.461	.488	.547	.598	.606	.622	.739	.306	.662	.467	.357	.243	.248	.170	.171	.210
20	9.60	7.15	.235	.122	.234	.346	.378	.384	.407	.395	.382	.368	.402	.418	.433	.464	.474	.496	.557	.572	.562	.684	.250	.617	.354	.237	.239	.190	.235	.252
21	8.40	6.85	.217	.110	.198	.280	.306	.317	.329	.340	.335	.354	.378	.375	.388	.395	.425	.388	.449	.485	.512	.565	.688	.393	.551	.336	.214	.241	.280	.287
22	7.96	6.42	.112	.036	.094	.150	.138	.137	.160	.175	.177	.187	.205	.222	.213	.223	.277	.253	.288	.338	.375	.471	.460	.653	.323	.579	.280	.340	.365	.334
23	8.66	7.16	.046	-.020	.013	.085	.064	.067	.080	.099	.101	.109	.132	.143	.145	.154	.173	.157	.165	.203	.281	.349	.401	.459	.684	.223	.416	.361	.379	.359
24	10.42	8.20	.142	.111	.125	.162	.127	.145	.162	.163	.139	.150	.166	.161	.166	.189	.207	.184	.173	.219	.256	.320	.390	.458	.572	.782	.220	.670	.444	.449
25	12.29	9.07	.168	.143	.141	.163	.115	.128	.144	.143	.118	.115	.132	.117	.123	.137	.135	.103	.088	.133	.150	.213	.305	.374	.514	.629	.814	.184	.601	.496
26	13.78	9.95	.051	.060	.048	.043	.013	.023	.011	.010	-.008	-.017	-.006	-.009	.007	.016	.006	-.023	-.032	.046	.044	.101	.229	.303	.466	.607	.682	.816	.067	.733
27	14.83	10.47	.034	.071	.039	.009	-.042	-.041	-.064	-.069	-.086	-.094	-.092	-.099	-.062	-.072	-.090	-.108	-.130	-.053	-.061	.020	.110	.221	.387	.557	.646	.729	.864	.058

TABLE I. 13 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

WINTER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1444

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.81	0.90	1.06	1.19	1.59	2.03	2.49	2.98	3.32	3.62	3.87	3.82	4.13	4.24	3.73	3.35	3.01	2.28	1.72	1.24	0.84	0.50	0.31	0.61	0.89	0.83	0.97	1.45
			SD	3.59	6.34	6.24	6.91	7.58	8.54	9.32	10.20	11.23	12.39	13.62	14.77	14.77	13.04	11.24	9.74	8.44	7.49	6.19	4.00	4.22	4.41	4.10	4.25	4.07	4.28	4.70	5.09
SFC	0.78	3.30	-.294	.666	.487	.403	.358	.267	.197	.145	.106	.067	.019	-.013	-.017	-.035	-.002	.010	-.013	-.006	-.018	-.017	-.033	-.056	-.081	-.065	-.050	-.026	.018	.026
1	2.77	7.05	.624	.006	.794	.647	.569	.480	.391	.301	.239	.192	.126	.074	.049	.015	.056	.089	.083	.080	.058	.063	.028	.010	-.083	-.038	-.057	-.010	.020	.020
2	6.72	7.44	.570	.848	.038	.858	.756	.674	.601	.520	.473	.412	.331	.276	.244	.206	.232	.266	.259	.252	.225	.199	.134	.071	-.034	.006	-.000	.073	.071	.080
3	10.30	7.36	.539	.726	.890	.050	.894	.816	.747	.672	.626	.569	.489	.432	.398	.360	.378	.396	.384	.375	.328	.289	.204	.104	.006	.031	.039	.097	.103	.130
4	13.70	8.64	.524	.652	.805	.915	.064	.911	.832	.762	.713	.657	.579	.527	.489	.447	.463	.467	.457	.445	.393	.362	.252	.129	.032	.063	.079	.121	.123	.158
5	17.01	9.73	.502	.598	.751	.849	.932	.090	.916	.843	.790	.735	.657	.590	.553	.512	.508	.508	.503	.493	.438	.390	.277	.146	.046	.070	.096	.145	.128	.160
6	20.48	10.53	.473	.538	.698	.799	.876	.936	.150	.925	.869	.812	.738	.674	.631	.590	.578	.577	.561	.535	.483	.433	.317	.174	.090	.095	.113	.137	.129	.162
7	23.93	11.72	.441	.494	.657	.760	.835	.890	.945	.219	.931	.867	.797	.737	.693	.651	.629	.615	.602	.567	.516	.459	.338	.191	.099	.110	.126	.138	.125	.154
8	27.41	13.34	.415	.454	.612	.723	.786	.838	.890	.946	.263	.934	.860	.799	.740	.703	.678	.646	.630	.593	.534	.476	.345	.192	.112	.134	.146	.151	.137	.170
9	30.97	14.73	.386	.421	.574	.684	.736	.780	.831	.885	.946	.294	.931	.865	.798	.753	.719	.673	.648	.605	.536	.481	.347	.193	.122	.145	.158	.141	.132	.172
10	34.42	16.12	.363	.381	.531	.644	.688	.734	.780	.825	.886	.947	.302	.936	.866	.800	.752	.691	.664	.631	.559	.511	.357	.215	.147	.157	.172	.142	.133	.190
11	37.69	17.05	.351	.358	.508	.619	.658	.699	.741	.782	.838	.898	.945	.309	.926	.845	.785	.713	.682	.637	.567	.522	.380	.221	.169	.168	.163	.117	.113	.173
12	40.14	16.63	.336	.358	.505	.604	.634	.670	.715	.747	.798	.847	.892	.930	.296	.898	.819	.741	.719	.669	.604	.550	.404	.210	.169	.165	.165	.107	.105	.173
13	40.43	15.05	.316	.329	.478	.582	.619	.649	.694	.724	.760	.791	.823	.853	.896	.328	.889	.795	.761	.705	.643	.568	.419	.213	.153	.158	.189	.109	.115	.169
14	38.47	13.43	.301	.301	.443	.550	.595	.625	.666	.697	.725	.751	.775	.791	.824	.868	.363	.874	.803	.745	.694	.616	.458	.240	.174	.167	.186	.115	.111	.147
15	34.42	11.80	.282	.274	.411	.513	.562	.593	.629	.653	.673	.690	.721	.735	.780	.812	.865	.292	.881	.794	.744	.662	.485	.295	.206	.179	.201	.130	.146	.176
16	29.46	10.16	.249	.227	.377	.470	.521	.535	.565	.583	.596	.609	.635	.652	.703	.734	.798	.837	.242	.863	.776	.688	.523	.317	.223	.164	.198	.157	.162	.197
17	24.03	9.02	.207	.180	.322	.418	.476	.497	.521	.530	.542	.541	.564	.580	.624	.663	.699	.716	.816	.217	.830	.717	.554	.343	.241	.179	.209	.187	.167	.200
18	17.97	7.94	.160	.147	.274	.380	.435	.445	.455	.471	.475	.474	.478	.489	.508	.547	.583	.575	.581	.733	.248	.782	.543	.379	.277	.217	.229	.204	.184	.211
19	12.63	7.60	.167	.109	.224	.314	.357	.363	.388	.401	.400	.405	.411	.408	.429	.441	.493	.484	.525	.554	.659	.262	.632	.401	.338	.267	.263	.233	.200	.190
20	8.43	7.40	.152	.056	.161	.220	.265	.280	.285	.286	.290	.290	.311	.306	.316	.332	.388	.409	.447	.467	.447	.604	.246	.518	.347	.300	.266	.238	.235	.207
21	6.18	7.39	.096	.008	.072	.116	.158	.143	.134	.153	.157	.177	.194	.199	.184	.204	.280	.269	.308	.348	.390	.392	.557	.270	.584	.385	.338	.312	.278	.228
22	4.88	7.91	.048	-.040	.001	.035	.065	.060	.068	.075	.072	.088	.112	.121	.115	.104	.178	.167	.195	.258	.308	.403	.447	.624	.253	.563	.393	.396	.353	.270
23	4.43	8.53	-.006	-.073	-.054	-.023	.003	-.005	-.002	.008	.010	.025	.047	.053	.034	.028	.093	.113	.122	.170	.243	.322	.448	.533	.695	.226	.588	.412	.367	.325
24	4.73	9.52	-.002	-.039	-.040	-.020	-.000	-.009	-.007	-.009	-.005	.012	.031	.029	.017	.020	.080	.091	.071	.137	.207	.274	.379	.539	.610	.755	.231	.602	.392	.377
25	5.59	10.39	.030	-.025	-.033	-.010	-.002	-.008	-.002	.002	.001	.016	.032	.029	.009	.036	.060	.066	.040	.099	.170	.233	.326	.460	.596	.695	.829	.239	.642	.499
26	6.49	11.62	.005	-.033	-.052	-.034	-.019	-.023	-.033	-.028	-.021	-.006	.008	.005	-.011	-.015	.035	.042	.015	.080	.120	.185	.288	.433	.538	.680	.749	.847	.191	.734
27	6.91	12.75	-.018	-.032	-.052	-.045	-.037	-.043	-.060	-.062	-.055	-.038	-.027	-.029	-.040	-.058	-.015	.001	-.031	.021	.063	.143	.230	.369	.483	.611	.737	.801	.898	.170

TABLE I. 14 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

SPRING

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1472

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.25	1.31	0.57	0.25	0.05	0.06	0.13	0.11	0.24	0.25	0.27	-0.03	-0.23	-0.67	-1.30	-1.08	-1.18	-0.85	-0.83	-0.54	-0.43	-0.52	-0.45	-0.47	-0.48	-0.62	-0.63	-0.67
			SD	3.42	5.50	5.57	6.16	6.77	7.05	7.82	8.73	9.52	11.12	12.65	14.43	15.01	13.99	11.75	9.70	8.23	6.99	5.97	4.53	3.98	3.50	3.49	3.35	3.41	3.34	3.27	3.48
SFC	-0.84	3.51		.150	.667	.461	.391	.313	.262	.202	.157	.113	.076	.021	.003	-.019	-.029	-.034	-.037	-.024	-.041	-.047	-.033	-.049	-.014	-.060	-.021	-.002	.011	.006	-.008
1	1.25	6.72		.674	.024	.768	.612	.510	.438	.357	.301	.253	.209	.147	.111	.096	.136	.098	.096	.130	.082	.038	.032	-.044	-.003	-.066	-.012	-.001	.014	.030	.001
2	3.93	7.40		.590	.831	.145	.826	.706	.622	.558	.490	.445	.404	.340	.286	.259	.254	.261	.272	.293	.260	.216	.179	.072	.030	-.049	-.011	.009	-.000	.014	-.022
3	6.37	8.60		.587	.741	.904	.160	.870	.768	.703	.636	.575	.527	.466	.407	.366	.353	.369	.384	.402	.371	.319	.247	.140	.045	-.039	.003	-.002	.003	-.017	-.033
4	8.91	9.80		.558	.683	.832	.934	.161	.881	.794	.727	.673	.623	.563	.508	.467	.449	.466	.473	.484	.442	.382	.301	.191	.074	-.014	.028	.026	-.006	-.020	-.037
5	11.66	11.06		.534	.640	.791	.886	.951	.197	.893	.812	.749	.685	.632	.578	.540	.531	.543	.546	.540	.507	.450	.357	.230	.132	.031	.054	.036	.007	-.023	-.042
6	14.30	12.25		.499	.600	.758	.847	.907	.955	.216	.918	.847	.785	.725	.665	.624	.611	.619	.619	.600	.569	.501	.400	.268	.131	.040	.054	.037	.001	-.018	-.015
7	17.05	13.50		.493	.569	.730	.818	.875	.920	.961	.227	.920	.850	.798	.739	.694	.672	.666	.667	.628	.598	.527	.421	.271	.149	.050	.065	.037	.001	-.017	-.016
8	19.88	14.89		.477	.543	.705	.799	.856	.900	.937	.966	.210	.926	.867	.812	.772	.741	.720	.708	.671	.624	.551	.433	.292	.160	.069	.070	.050	.006	-.010	.008
9	22.74	16.59		.463	.517	.674	.771	.826	.868	.903	.931	.968	.194	.938	.876	.828	.785	.743	.717	.673	.628	.552	.437	.279	.147	.066	.053	.021	-.011	-.031	-.024
10	25.83	18.16		.447	.483	.635	.733	.793	.832	.866	.895	.932	.967	.198	.934	.882	.832	.779	.741	.695	.646	.565	.441	.268	.146	.075	.044	.019	-.006	-.014	-.006
11	29.24	19.29		.424	.451	.608	.708	.764	.805	.840	.868	.903	.938	.966	.178	.936	.864	.802	.747	.694	.636	.548	.425	.264	.157	.092	.051	.018	-.008	-.013	-.018
12	32.22	19.86		.389	.424	.582	.681	.733	.777	.811	.834	.870	.897	.924	.955	.210	.917	.826	.757	.693	.628	.551	.407	.263	.175	.085	.061	.009	-.009	-.019	-.014
13	33.53	18.79		.370	.408	.569	.662	.719	.759	.795	.815	.847	.867	.885	.910	.944	.248	.888	.802	.743	.669	.567	.421	.275	.176	.095	.077	.034	.024	.006	.001
14	31.41	16.57		.347	.399	.553	.639	.699	.739	.777	.794	.815	.830	.847	.863	.892	.922	.261	.885	.789	.719	.627	.483	.312	.186	.103	.074	.063	.024	.001	.036
15	27.18	14.17		.332	.388	.538	.624	.678	.717	.752	.770	.791	.804	.807	.817	.838	.862	.900	.280	.864	.757	.673	.534	.353	.209	.126	.095	.070	.037	.019	.045
16	22.15	12.47		.314	.367	.522	.609	.656	.691	.728	.746	.762	.771	.775	.778	.801	.825	.843	.906	.260	.843	.714	.567	.414	.242	.162	.118	.081	.044	.045	.049
17	16.74	11.27		.294	.345	.504	.576	.629	.662	.697	.713	.729	.732	.735	.735	.761	.776	.806	.834	.886	.270	.777	.613	.439	.245	.146	.113	.085	.052	.039	.046
18	10.93	9.67		.280	.322	.477	.541	.593	.626	.652	.669	.680	.684	.681	.681	.701	.709	.738	.759	.797	.863	.260	.684	.454	.292	.200	.127	.102	.061	.035	.054
19	5.47	8.20		.260	.298	.431	.484	.524	.548	.579	.586	.589	.598	.588	.584	.597	.618	.622	.674	.716	.712	.783	.254	.529	.338	.244	.178	.126	.100	.056	.051
20	1.94	7.22		.251	.285	.404	.455	.479	.508	.533	.540	.543	.553	.538	.534	.549	.555	.578	.631	.653	.675	.658	.665	.219	.457	.289	.223	.222	.184	.096	.080
21	-0.68	6.42		.166	.210	.328	.362	.393	.407	.435	.445	.452	.456	.449	.453	.454	.454	.469	.503	.534	.540	.577	.552	.632	.127	.470	.301	.213	.188	.135	.106
22	-2.31	6.19		.177	.205	.296	.352	.369	.384	.402	.411	.412	.420	.410	.405	.403	.400	.409	.455	.497	.480	.502	.536	.560	.642	.068	.359	.313	.278	.194	.125
23	-3.39	6.01		.155	.193	.266	.313	.334	.338	.354	.366	.371	.373	.366	.369	.362	.356	.357	.385	.427	.420	.432	.434	.491	.603	.702	.024	.525	.314	.252	.151
24	-3.87	6.29		.122	.163	.231	.276	.302	.314	.330	.336	.345	.355	.353	.358	.366	.349	.347	.379	.408	.393	.414	.413	.428	.529	.642	.744	.064	.566	.357	.241
25	-3.73	7.07		.181	.217	.268	.308	.324	.334	.342	.351	.354	.368	.366	.370	.367	.368	.364	.412	.428	.408	.412	.411	.450	.507	.596	.667	.770	.115	.582	.332
26	-3.52	7.70		.142	.188	.251	.282	.307	.314	.329	.337	.347	.349	.355	.358	.353	.354	.358	.392	.409	.387	.402	.390	.394	.488	.542	.602	.694	.824	.088	.628
27	-3.31	8.21		.095	.148	.206	.227	.244	.260	.271	.276	.291	.295	.302	.311	.322	.322	.330	.361	.380	.355	.351	.345	.347	.415	.484	.542	.655	.735	.880	.025

TABLE I. 15 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

SUMMER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1472

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.09	2.07	1.37	1.17	1.10	0.80	0.37	0.14	-0.23	-0.52	-0.96	-1.44	-2.30	-3.48	-4.19	-3.83	-2.94	-2.07	-1.36	-0.95	-0.80	-0.51	-0.38	-0.27	-0.32	-0.52	-0.72	-0.98
			SD	2.23	3.45	3.46	3.49	3.65	3.91	4.24	4.54	4.98	5.76	6.85	7.93	8.93	9.33	8.25	6.25	4.72	3.77	3.13	2.73	2.61	2.69	3.10	3.15	2.93	2.85	2.94	3.14
SFC	-0.75	2.57		-.016	.515	.355	.293	.216	.165	.129	.074	.046	.014	-.029	-.045	-.056	-.064	-.043	-.072	-.047	.009	.067	.065	.026	-.039	-.064	-.026	-.023	.007	.062	.040
1	0.62	4.59	.614		.090	.789	.670	.544	.490	.434	.334	.265	.187	.117	.059	.025	.005	.015	.034	.043	.121	.113	.033	.016	.030	.052	.052	.034	-.010	.020	-.020
2	1.20	4.57	.445	.852		.160	.832	.662	.568	.481	.386	.321	.243	.187	.126	.093	.069	.062	.081	.106	.193	.115	.075	.024	.062	.088	.093	.060	-.007	-.007	.013
3	1.48	4.56	.417	.752	.878		.138	.822	.668	.558	.475	.389	.314	.252	.201	.173	.157	.160	.180	.193	.256	.189	.077	.045	.061	.085	.116	.081	.016	.014	.030
4	1.65	4.75	.378	.664	.759	.879		.114	.828	.680	.582	.498	.399	.334	.275	.242	.235	.233	.282	.285	.299	.242	.127	.055	.055	.060	.099	.096	.044	.043	.059
5	1.83	4.99	.355	.637	.707	.795	.900		.871	.833	.706	.600	.486	.415	.350	.311	.305	.311	.359	.354	.321	.264	.147	.055	.045	.040	.070	.100	.063	.055	.074
6	1.46	5.29	.300	.544	.630	.704	.798	.894		.888	.843	.728	.614	.521	.447	.405	.392	.403	.425	.396	.328	.261	.127	.088	.081	.050	.093	.076	.072	.072	.061
7	1.30	5.71	.240	.448	.542	.615	.708	.800	.889		.123	.857	.741	.644	.568	.517	.506	.513	.511	.458	.360	.274	.124	.096	.094	.046	.053	.064	.079	.092	.073
8	1.11	6.21	.180	.339	.451	.536	.628	.706	.796	.901		.126	.884	.772	.693	.637	.612	.623	.577	.487	.358	.264	.107	.102	.069	.036	.065	.064	.070	.071	.073
9	1.00	7.20	.124	.251	.368	.454	.544	.618	.710	.816	.921		.156	.894	.814	.748	.711	.679	.620	.500	.359	.264	.103	.094	.050	.031	.075	.065	.083	.072	.072
10	1.01	8.33	.072	.182	.300	.397	.487	.555	.644	.743	.847	.939		.185	.915	.834	.781	.731	.645	.501	.363	.244	.123	.116	.039	.008	.067	.059	.097	.069	.089
11	1.03	9.54	.025	.117	.240	.334	.424	.489	.576	.677	.791	.881	.943		.191	.930	.857	.776	.657	.498	.340	.241	.120	.103	.025	-.013	.055	.049	.091	.068	.098
12	1.05	10.93	-.009	.067	.198	.298	.385	.446	.529	.639	.751	.836	.895	.955		.183	.920	.817	.688	.514	.348	.254	.132	.102	.010	-.023	.047	.034	.067	.047	.077
13	0.00	11.59	-.030	.029	.165	.274	.363	.420	.504	.618	.724	.803	.852	.901	.952		.155	.831	.732	.544	.368	.268	.155	.113	.031	-.026	.045	.049	.085	.060	.071
14	0.26	10.40	-.060	.017	.161	.272	.359	.408	.497	.605	.707	.775	.821	.852	.890	.936		.811	.611	.427	.310	.191	.139	.055	-.023	.056	.076	.115	.061	.049
15	-1.12	8.32	-.039	.033	.170	.286	.364	.414	.439	.591	.675	.726	.756	.771	.799	.834	.902		.036	.763	.515	.394	.248	.173	.093	.025	.084	.094	.115	.060	.071
16	-2.75	6.13	-.030	.067	.191	.285	.345	.396	.464	.546	.598	.626	.627	.634	.653	.694	.754	.851		.048	.626	.412	.285	.218	.101	.024	.086	.103	.129	.104	.106
17	-4.72	4.74	.031	.128	.217	.300	.333	.372	.408	.463	.498	.510	.508	.510	.529	.561	.616	.695	.795		.004	.495	.267	.214	.119	.076	.131	.119	.120	.088	.094
18	-7.13	3.95	.059	.166	.247	.301	.332	.354	.374	.427	.441	.450	.441	.441	.452	.480	.530	.605	.649	.716		.061	.472	.152	.043	-.033	-.012	.008	.104	.125	.154
19	-9.46	3.78	-.020	.131	.215	.259	.256	.282	.320	.352	.376	.388	.391	.392	.392	.420	.463	.532	.561	.590	.702		.067	.443	-.013	-.143	-.094	.011	.112	.117	.171
20	-11.74	4.28	-.110	.088	.182	.208	.189	.208	.246	.271	.302	.317	.321	.326	.333	.359	.401	.458	.479	.503	.538	.768		.037	.330	.024	-.026	.034	.112	.125	.137
21	-13.63	4.33	-.132	.054	.159	.183	.174	.206	.258	.277	.300	.315	.313	.321	.335	.355	.388	.436	.465	.481	.482	.615	.801		.093	.485	.146	.086	.047	.064	.045
22	-15.11	4.24	-.094	.046	.114	.145	.156	.185	.228	.269	.292	.311	.304	.314	.334	.352	.377	.430	.459	.461	.473	.551	.631	.778		.125	.575	.192	.029	-.010	-.040
23	-16.28	4.30	-.021	.059	.102	.149	.161	.190	.227	.275	.295	.319	.310	.322	.344	.371	.386	.435	.442	.443	.469	.501	.497	.565	.761		.036	.535	.138	.047	.109
24	-17.24	4.46	.008	.038	.073	.127	.150	.196	.235	.282	.301	.316	.313	.326	.354	.376	.385	.423	.421	.424	.460	.458	.424	.435	.565	.782		.484	.053	.097
25	-18.12	4.69	.030	.060	.082	.134	.180	.224	.274	.315	.331	.344	.342	.351	.372	.398	.404	.426	.420	.431	.444	.432	.389	.391	.477	.609	.783		.012	.406	.060
26	-18.65	4.99	.026	.062	.081	.136	.185	.213	.269	.309	.334	.345	.344	.355	.365	.389	.390	.413	.395	.403	.406	.386	.369	.387	.452	.538	.625	.792		.053	.456
27	-19.24	5.32	.024	.036	.064	.116	.157	.183	.237	.284	.314	.332	.330	.336	.354	.375	.381	.410	.388	.396	.408	.397	.382	.397	.444	.512	.538	.634	.781		.021

TABLE I. 16 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

FALL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1456

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-1.05	-0.59	-0.18	0.02	0.07	0.06	0.06	0.07	-0.05	-0.01	-0.18	-0.61	-1.02	-1.36	-1.67	-1.33	-1.15	-0.61	-0.53	-0.43	-0.31	-0.23	-0.33	-0.24	-0.27	-0.43	-0.58	-0.66
			SD	3.11	5.27	5.04	5.00	5.28	5.85	6.56	7.39	8.29	9.41	10.45	12.47	13.17	12.29	10.31	8.12	6.28	4.84	3.85	3.44	3.04	2.89	3.04	3.00	3.07	3.37	3.37	3.63
SFC	-0.93	3.26	-.011	.734	.573	.486	.430	.394	.350	.278	.202	.133	.064	.025	-.022	-.066	-.067	-.057	-.015	-.003	-.011	.036	.038	.001	.008	-.006	-.020	-.036	-.042	.021
1	-1.47	6.12	.692	.186	.842	.720	.628	.559	.490	.393	.311	.240	.176	.116	.063	.018	.008	.018	.039	.044	.055	.062	.073	.039	.052	.024	.025	.016	-.005	.013
2	0.64	6.55	.607	.881	.202	.856	.749	.667	.602	.522	.437	.374	.292	.232	.188	.154	.131	.161	.172	.159	.159	.130	.121	.081	.044	.033	.049	.028	.002	.019
3	2.41	6.98	.579	.785	.899	.171	.876	.768	.699	.632	.552	.490	.409	.349	.295	.255	.251	.272	.285	.267	.244	.201	.178	.095	.064	.065	.069	.034	.011	.035
4	3.89	7.37	.546	.715	.827	.921	.167	.882	.804	.733	.651	.585	.506	.441	.388	.351	.345	.374	.385	.337	.300	.233	.194	.107	.078	.059	.045	.033	.011	.020
5	5.40	8.16	.524	.644	.754	.851	.938	.209	.904	.824	.738	.672	.599	.521	.469	.426	.414	.447	.452	.397	.352	.257	.205	.117	.100	.063	.051	.036	.014	.014
6	7.02	9.19	.475	.571	.687	.792	.879	.945	.224	.913	.826	.760	.685	.611	.554	.512	.502	.525	.526	.439	.368	.274	.206	.128	.112	.059	.042	.039	-.003	.004
7	8.75	10.29	.450	.508	.638	.745	.833	.899	.951	.217	.916	.840	.772	.693	.631	.585	.575	.587	.574	.480	.399	.286	.208	.136	.120	.068	.053	.045	-.008	-.000
8	10.69	11.53	.394	.434	.577	.698	.786	.847	.903	.955	.221	.926	.850	.778	.712	.664	.645	.649	.617	.512	.424	.290	.210	.152	.117	.049	.027	.018	-.011	.008
9	12.76	12.96	.346	.363	.518	.648	.735	.800	.857	.912	.957	.236	.930	.863	.803	.743	.698	.691	.636	.520	.430	.306	.221	.151	.106	.050	.024	.011	-.019	.009
10	14.64	14.52	.303	.311	.473	.601	.688	.752	.813	.871	.920	.965	.238	.941	.881	.812	.750	.716	.648	.531	.430	.312	.210	.151	.112	.060	.021	.010	-.020	.002
11	16.52	15.60	.265	.259	.426	.553	.642	.709	.775	.835	.884	.931	.964	.202	.944	.887	.794	.739	.660	.532	.433	.310	.221	.144	.103	.052	.029	.015	-.016	-.011
12	17.91	16.19	.235	.227	.399	.530	.616	.681	.749	.808	.858	.902	.936	.967	.202	.937	.852	.780	.692	.556	.450	.318	.225	.140	.089	.040	.022	-.001	-.021	-.012
13	18.00	15.93	.216	.201	.372	.502	.589	.655	.720	.777	.825	.864	.894	.921	.955	.206	.977	.813	.721	.573	.451	.315	.220	.152	.081	.044	.023	.009	-.007	-.022
14	16.28	14.84	.204	.201	.361	.485	.572	.638	.709	.762	.805	.831	.851	.873	.899	.941	.201	.876	.771	.620	.489	.350	.241	.163	.084	.046	.033	.020	.008	-.005
15	13.26	12.91	.202	.207	.362	.491	.581	.647	.708	.758	.797	.816	.827	.841	.864	.896	.938	.196	.852	.581	.543	.388	.266	.195	.106	.062	.036	.016	-.013	-.012
16	9.49	10.91	.226	.220	.376	.501	.584	.648	.705	.747	.781	.798	.800	.807	.827	.859	.868	.932	.198	.779	.605	.460	.308	.213	.133	.082	.056	.003	-.041	-.011
17	5.85	9.14	.233	.216	.363	.482	.561	.621	.678	.711	.737	.752	.753	.762	.776	.808	.833	.872	.920	.143	.701	.482	.323	.224	.159	.115	.078	.034	-.018	-.017
18	2.41	7.63	.221	.200	.328	.445	.513	.570	.624	.656	.679	.689	.688	.691	.709	.741	.776	.812	.848	.877	.140	.540	.312	.241	.148	.133	.119	.070	.024	-.021
19	-0.28	6.85	.228	.192	.324	.434	.504	.560	.616	.638	.656	.674	.671	.677	.695	.712	.735	.781	.810	.820	.851	.181	.482	.234	.172	.158	.157	.064	-.007	.000
20	-2.14	6.64	.215	.161	.294	.399	.461	.518	.572	.597	.618	.625	.631	.628	.644	.672	.692	.727	.762	.773	.773	.840	.131	.429	.181	.165	.152	.089	.035	.031
21	-3.18	6.80	.211	.151	.263	.359	.415	.474	.516	.542	.570	.571	.570	.575	.583	.617	.634	.679	.713	.729	.727	.758	.850	.078	.450	.224	.189	.133	.134	.106
22	-3.77	7.34	.204	.149	.247	.335	.387	.450	.494	.518	.540	.543	.539	.549	.553	.584	.598	.639	.673	.687	.688	.717	.790	.891	.024	.528	.230	.190	.212	.182
23	-3.96	8.07	.201	.141	.232	.320	.377	.436	.472	.499	.519	.516	.514	.519	.528	.552	.573	.618	.651	.662	.654	.684	.773	.839	.903	.093	.513	.263	.197	.184
24	-3.79	8.87	.200	.138	.221	.301	.357	.421	.456	.487	.504	.497	.493	.499	.505	.534	.544	.590	.625	.632	.624	.663	.740	.814	.854	.921	.129	.557	.276	.181
25	-3.31	10.02	.196	.134	.207	.282	.344	.411	.444	.473	.488	.480	.476	.482	.490	.518	.536	.574	.613	.619	.608	.643	.724	.797	.839	.886	.934	.151	.363	.217
26	-2.59	10.95	.211	.142	.218	.292	.351	.418	.451	.479	.494	.492	.489	.494	.501	.524	.533	.581	.617	.527	.615	.643	.721	.791	.836	.879	.909	.950	.187	.579
27	-1.81	11.97	.222	.160	.227	.302	.356	.420	.451	.481	.494	.492	.488	.493	.499	.521	.527	.577	.614	.616	.604	.631	.701	.777	.821	.862	.891	.918	.955	.177

TABLE I. 17 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

ANNUAL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 5844

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.12	0.93	0.70	0.65	0.70	0.73	0.75	0.82	0.81	0.82	0.74	0.42	0.13	-0.34	-0.80	-0.74	-0.58	-0.32	-0.26	-0.18	-0.18	-0.19	-0.22	-0.10	-0.05	-0.19	-0.25	-0.22
			SD	3.24	5.33	5.21	5.56	6.04	6.60	7.29	8.08	8.92	10.11	11.45	12.85	13.40	12.60	10.87	8.95	7.41	6.18	4.98	4.11	3.57	3.46	3.47	3.49	3.44	3.54	3.65	4.02
SFC	-0.44	3.25		.140	.673	.483	.397	.331	.264	.204	.145	.098	.053	.005	-.025	-.050	-.079	-.077	-.082	-.071	-.062	-.056	-.035	-.045	-.050	-.062	-.048	-.045	-.035	-.019	-.018
1	0.79	6.37		.660	.088	.798	.652	.556	.479	.398	.315	.254	.199	.135	.088	.057	.031	.036	.048	.064	.059	.044	.040	.006	.009	-.029	-.006	-.012	-.000	.013	.003
2	3.11	7.02		.583	.851	.130	.845	.725	.645	.573	.495	.438	.381	.307	.251	.215	.185	.190	.210	.223	.220	.192	.157	.098	.061	.000	.025	.027	.037	.036	.037
3	5.12	7.99		.558	.737	.903	.121	.876	.777	.705	.633	.571	.514	.440	.382	.338	.303	.309	.329	.340	.335	.294	.237	.161	.083	.021	.048	.047	.055	.049	.064
4	7.01	9.14		.524	.658	.826	.933	.126	.885	.801	.729	.668	.608	.535	.478	.433	.397	.402	.420	.428	.408	.361	.299	.204	.107	.038	.066	.071	.070	.066	.082
5	8.85	10.57		.494	.600	.773	.881	.953	.160	.900	.819	.752	.687	.616	.551	.507	.473	.471	.487	.490	.467	.417	.340	.234	.134	.060	.076	.086	.092	.076	.092
6	10.78	12.04		.454	.538	.723	.837	.911	.960	.206	.915	.844	.779	.707	.640	.593	.558	.553	.564	.556	.517	.459	.376	.269	.155	.085	.085	.091	.092	.081	.101
7	12.72	13.67		.428	.490	.684	.802	.878	.928	.967	.236	.920	.849	.782	.717	.666	.628	.614	.617	.599	.553	.490	.397	.282	.171	.094	.096	.099	.096	.083	.102
8	14.72	15.42		.398	.445	.644	.772	.849	.895	.939	.971	.253	.927	.855	.792	.737	.697	.674	.662	.635	.578	.509	.408	.293	.175	.102	.105	.105	.096	.088	.118
9	16.81	17.41		.372	.407	.609	.741	.816	.866	.908	.941	.973	.262	.931	.866	.806	.757	.718	.689	.649	.586	.511	.413	.290	.169	.101	.105	.100	.087	.078	.109
10	18.91	19.34		.347	.371	.573	.709	.786	.837	.879	.913	.946	.975	.270	.936	.874	.811	.758	.713	.663	.601	.519	.425	.289	.174	.110	.107	.101	.088	.080	.118
11	21.06	20.99		.321	.339	.545	.682	.759	.811	.855	.890	.923	.953	.975	.255	.935	.858	.791	.727	.669	.596	.514	.420	.294	.175	.116	.107	.096	.077	.071	.105
12	22.76	22.02		.293	.316	.523	.660	.736	.790	.836	.869	.902	.928	.950	.972	.771	.918	.832	.756	.691	.609	.531	.425	.302	.172	.108	.105	.091	.069	.066	.106
13	23.17	21.75		.270	.291	.501	.638	.719	.772	.820	.853	.883	.903	.921	.940	.965	.307	.900	.803	.732	.638	.549	.435	.311	.179	.104	.109	.111	.089	.086	.114
14	21.54	20.30		.255	.281	.486	.623	.707	.761	.810	.843	.869	.884	.895	.913	.934	.958	.338	.878	.779	.685	.558	.483	.345	.198	.115	.116	.128	.103	.093	.123
15	18.37	18.15		.252	.276	.479	.617	.701	.756	.803	.833	.856	.868	.878	.889	.909	.928	.954	.339	.866	.743	.658	.537	.383	.240	.147	.138	.144	.114	.111	.144
16	14.53	15.97		.252	.272	.477	.612	.694	.745	.791	.819	.838	.846	.852	.861	.880	.900	.919	.953	.327	.828	.704	.582	.434	.266	.172	.146	.156	.128	.128	.163
17	10.42	14.05		.251	.265	.467	.598	.681	.732	.776	.800	.817	.821	.826	.833	.851	.870	.893	.914	.947	.294	.770	.612	.457	.282	.186	.161	.165	.143	.128	.156
18	5.00	12.08		.243	.252	.449	.579	.661	.710	.753	.775	.789	.793	.794	.800	.814	.832	.856	.876	.895	.929	.273	.689	.448	.303	.197	.162	.169	.156	.144	.167
19	2.05	10.57		.237	.231	.423	.548	.625	.671	.716	.738	.751	.758	.755	.762	.775	.790	.813	.838	.861	.868	.900	.273	.562	.311	.216	.182	.150	.171	.142	.156
20	-0.92	9.79		.217	.198	.387	.506	.578	.628	.670	.692	.707	.714	.718	.721	.734	.750	.776	.804	.823	.832	.831	.869	.233	.465	.253	.211	.213	.194	.167	.162
21	-2.87	9.53		.184	.157	.336	.449	.523	.567	.609	.636	.654	.663	.668	.676	.684	.701	.730	.752	.773	.782	.795	.804	.859	.159	.515	.301	.248	.217	.199	.169
22	-4.12	9.71		.177	.135	.300	.415	.485	.532	.575	.602	.618	.628	.633	.642	.651	.664	.691	.715	.735	.743	.758	.787	.812	.875	.107	.562	.210	.265	.231	.177
23	-4.85	10.14		.166	.118	.270	.384	.455	.499	.541	.570	.588	.596	.603	.611	.618	.634	.658	.685	.701	.709	.724	.747	.789	.835	.893	.128	.555	.319	.246	.199
24	-5.09	10.90		.162	.113	.257	.366	.437	.483	.524	.550	.569	.578	.585	.592	.602	.616	.640	.665	.675	.684	.702	.724	.756	.814	.853	.911	.166	.573	.319	.249
25	-4.95	11.91		.180	.124	.260	.367	.436	.492	.523	.549	.566	.575	.581	.588	.595	.610	.632	.657	.666	.674	.688	.709	.742	.791	.838	.879	.528	.190	.584	.352
26	-4.63	12.88		.169	.116	.249	.353	.423	.468	.506	.533	.552	.561	.566	.575	.581	.595	.617	.641	.648	.657	.668	.687	.720	.777	.816	.862	.893	.937	.197	.649
27	-4.42	13.75		.154	.106	.234	.333	.358	.444	.479	.506	.526	.536	.542	.550	.560	.572	.593	.618	.625	.629	.639	.662	.693	.749	.791	.835	.877	.906	.551	.214

TABLE II

Page

Crosslevel and Intralevel Coefficients of Linear Correlation between Wind Components, Cape Kennedy, Florida

TABLE II. 1 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

JANUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km → / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-1.02	0.57	0.77	0.93	1.25	1.54	2.17	2.68	2.82	2.98	3.35	3.03	3.33	3.44	2.66	2.95	2.70	1.99	1.54	1.06	0.62	0.51	0.80	1.19	1.39	1.60	1.80	2.54
			SD	3.64	6.55	6.84	7.80	8.30	8.97	9.85	10.67	11.51	12.38	12.91	13.95	13.76	11.86	10.45	9.58	8.06	7.22	6.82	6.66	4.03	3.00	4.10	4.50	4.37	4.61	5.22	5.98
SFC	0.98	3.20	-.208	.235	.095	.020	-.035	-.070	-.121	-.139	-.157	-.137	-.164	-.166	-.177	-.177	-.145	-.197	-.101	-.091	-.125	-.137	-.062	-.019	-.020	.050	.053	.051	.012	.044
1	3.27	6.76	-.424	-.005	-.034	-.083	-.136	-.147	-.161	-.148	-.172	-.157	-.172	-.202	-.213	-.191	-.196	-.216	-.150	-.129	-.124	-.111	-.119	-.082	-.045	.016	.080	.011	-.041	-.020
2	7.68	6.84	-.319	.046	.070	.004	-.043	-.058	-.081	-.062	-.073	-.062	-.093	-.126	-.139	-.137	-.180	-.172	-.145	-.113	-.096	-.064	-.116	-.087	-.060	.014	.103	.058	-.003	.020
3	11.53	7.22	-.267	.082	.139	.077	.027	.022	-.011	.015	.011	.018	-.017	-.055	-.059	-.053	-.102	-.081	-.081	-.073	-.056	-.005	-.063	-.043	-.041	.052	.126	.085	.040	.080
4	15.09	7.70	-.233	.100	.175	.131	.098	.087	.039	.053	.047	.037	.007	-.016	-.044	-.033	-.051	-.012	-.020	-.031	-.005	.019	-.027	.013	.018	.104	.179	.141	.100	.155
5	18.70	8.75	-.185	.108	.152	.161	.149	.146	.100	.123	.110	.101	.081	.061	.031	.032	.024	.057	.022	.016	.069	.072	.005	.038	.042	.129	.174	.141	.109	.150
6	22.27	9.34	-.120	.141	.241	.203	.197	.204	.161	.166	.158	.146	.126	.106	.081	.054	.054	.099	.090	.043	.094	.088	.033	.050	.044	.141	.166	.127	.113	.145
7	25.90	10.37	-.079	.172	.271	.248	.251	.259	.233	.236	.222	.206	.187	.166	.135	.110	.103	.128	.070	.082	.122	.109	.050	.078	.079	.162	.180	.127	.113	.133
8	29.52	11.23	-.047	.191	.297	.292	.295	.292	.259	.276	.267	.258	.243	.213	.185	.143	.160	.170	.113	.119	.160	.150	.090	.085	.113	.186	.197	.147	.159	.177
9	32.87	12.65	-.026	.186	.310	.319	.310	.315	.286	.304	.305	.283	.255	.230	.200	.154	.165	.177	.134	.120	.163	.154	.093	.110	.147	.194	.203	.161	.173	.191
10	36.55	14.06	.025	.199	.332	.356	.351	.356	.333	.335	.335	.319	.295	.283	.257	.200	.216	.212	.160	.146	.181	.172	.116	.079	.148	.203	.198	.164	.209	.234
11	40.50	15.33	.017	.192	.312	.339	.343	.339	.308	.297	.292	.277	.261	.242	.223	.178	.194	.192	.155	.146	.175	.183	.129	.066	.150	.187	.201	.156	.191	.236
12	43.22	14.73	.020	.184	.321	.358	.360	.347	.329	.311	.313	.285	.275	.272	.269	.238	.226	.231	.198	.186	.192	.183	.107	.062	.119	.176	.197	.136	.177	.221
13	43.48	12.83	.023	.196	.318	.377	.384	.365	.350	.349	.344	.321	.313	.304	.273	.241	.283	.244	.199	.193	.237	.213	.148	.137	.218	.249	.259	.242	.268	.285
14	41.60	12.11	.050	.213	.349	.401	.403	.374	.371	.380	.391	.379	.367	.352	.308	.252	.337	.335	.271	.260	.283	.246	.185	.198	.253	.303	.294	.261	.284	.274
15	37.33	10.62	.026	.174	.310	.350	.352	.343	.362	.369	.378	.371	.355	.336	.314	.286	.327	.326	.299	.294	.285	.236	.174	.175	.216	.257	.266	.233	.239	.235
16	31.85	9.12	-.005	.161	.296	.339	.347	.335	.349	.364	.378	.371	.356	.341	.307	.320	.336	.280	.288	.290	.253	.192	.100	.167	.166	.194	.202	.152	.206	.194
17	25.90	8.41	.037	.176	.267	.336	.333	.342	.350	.367	.382	.380	.364	.357	.312	.323	.335	.276	.239	.254	.245	.167	.093	.171	.168	.173	.166	.187	.211	.202
18	19.11	7.63	.092	.207	.302	.348	.349	.339	.343	.358	.364	.355	.338	.329	.295	.281	.315	.276	.214	.209	.263	.226	.103	.143	.153	.175	.167	.128	.132	.127
19	13.49	7.54	.115	.181	.293	.331	.334	.329	.321	.302	.290	.258	.248	.247	.217	.199	.205	.204	.175	.175	.131	.212	.086	.092	.142	.125	.106	.061	.064	.060
20	8.96	6.99	.064	.066	.164	.164	.165	.161	.168	.158	.160	.142	.136	.151	.112	.068	.095	.097	.139	.128	.059	.090	.207	.146	.216	.156	.160	.081	.051	.031
21	6.41	7.33	.039	.030	.114	.063	.068	.094	.094	.102	.085	.057	.073	.093	.058	.010	.001	.037	.111	.131	.085	.025	.035	.165	.265	.178	.102	.021	.036	-.026
22	4.72	8.44	.101	.085	.159	.131	.163	.149	.149	.117	.117	.088	.124	.156	.125	.087	.109	.106	.166	.193	.146	.124	.093	.066	.250	.155	.122	.054	.048	-.033
23	3.65	8.00	.071	.101	.181	.203	.222	.183	.169	.165	.154	.164	.146	.171	.128	.115	.152	.167	.180	.219	.225	.209	.240	.186	.194	.251	.277	.159	.147	.091
24	2.92	9.79	.029	.063	.154	.174	.170	.160	.159	.164	.154	.151	.141	.185	.157	.125	.144	.142	.142	.178	.234	.216	.229	.201	.256	.226	.283	.226	.211	.159
25	3.66	10.14	-.004	.018	.098	.120	.143	.138	.106	.127	.118	.134	.122	.136	.127	.116	.170	.139	.155	.213	.257	.254	.182	.178	.330	.280	.232	.250	.254	.152
26	4.47	11.98	-.003	.017	.056	.055	.070	.078	.055	.079	.061	.081	.075	.070	.059	.060	.112	.102	.176	.172	.157	.212	.156	.149	.264	.299	.205	.195	.270	.229
27	4.50	13.65	.055	.093	.131	.117	.117	.124	.102	.137	.115	.140	.133	.122	.117	.093	.178	.154	.179	.186	.207	.175	.184	.158	.264	.293	.217	.206	.240	.242

TABLE II. 2 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

FEBRUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 452

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL SD	ALTITUDE (MSL) km: SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
		MERIDIONAL MEAN	-0.04	2.41	1.83	1.96	2.23	2.44	3.03	3.52	3.81	4.04	3.93	4.06	4.20	4.02	3.67	2.75	2.37	1.44	0.92	0.83	0.72	-0.23	-0.68	-0.26	-0.02	-0.53	-0.42	-0.14
		SD	3.92	6.46	6.42	7.03	7.77	8.72	9.28	10.14	11.22	12.31	13.64	15.01	14.51	12.51	11.29	9.62	8.49	7.18	6.02	4.88	4.15	5.01	4.46	4.30	3.57	3.64	4.02	3.96
SFC	0.54	3.62		-.281	.135	.004	-.123	-.183	-.237	-.267	-.278	-.300	-.280	-.275	-.257	-.219	-.226	-.262	-.246	-.256	-.253	-.223	-.234	-.201	-.104	-.096	.029	-.018	-.006	.034	.044
1	3.74	7.08	-.423		-.078	-.123	-.212	-.278	-.310	-.337	-.335	-.359	-.324	-.312	-.304	-.280	-.259	-.268	-.262	-.272	-.274	-.235	-.232	-.149	.031	-.003	.106	.130	.043	.075	.095
2	7.71	7.49	-.312	-.035		-.053	-.145	-.207	-.222	-.235	-.252	-.261	-.232	-.213	-.221	-.157	-.206	-.185	-.205	-.212	-.239	-.180	-.143	-.057	.004	.047	.154	.132	.067	.068	.098
3	11.15	8.31	-.248	.027	.039		-.052	-.122	-.150	-.154	-.164	-.186	-.166	-.166	-.179	-.164	-.178	-.144	-.190	-.196	-.193	-.154	-.116	-.093	.077	.056	.139	.131	.077	.057	.094
4	14.21	9.37	-.186	.076	.091	-.004		-.078	-.117	-.117	-.162	-.133	-.118	-.114	-.127	-.109	-.123	-.093	-.141	-.134	-.156	-.150	-.127	-.015	.059	.032	.138	.110	.044	.054	.073
5	17.63	10.57	-.141	.073	.119	.046	-.015		-.058	-.057	-.054	-.068	-.054	-.035	-.060	-.055	-.069	-.037	-.088	-.094	-.113	-.083	-.066	.006	.094	.047	.142	.120	.050	.054	.069
6	21.36	11.74	-.031	.166	.236	.172	.117	.078		.079	.065	.064	.072	.081	.055	.056	.041	.065	.012	-.010	-.049	-.009	.043	.068	.133	.075	.151	.135	.061	.077	.097
7	24.82	13.27	.058	.227	.311	.264	.203	.167	.174		.159	.169	.172	.159	.149	.148	.163	.099	.055	.032	.062	.083	.094	.139	.074	.121	.132	.067	.087	.107
8	28.15	14.98	.085	.252	.346	.314	.258	.226	.226	.207		.212	.226	.225	.218	.209	.208	.221	.139	.090	.098	.115	.118	.132	.126	.069	.107	.094	.044	.047	.066
9	31.98	16.90	.124	.259	.342	.328	.270	.244	.243	.232	.249		.275	.277	.267	.260	.251	.257	.172	.119	.131	.137	.166	.159	.170	.112	.129	.112	.042	.060	.060
10	35.43	18.21	.106	.192	.284	.276	.218	.208	.221	.212	.242	.286		.291	.283	.278	.258	.269	.195	.141	.156	.160	.209	.208	.152	.119	.129	.141	.056	.072	.063
11	38.89	19.37	.149	.209	.315	.295	.248	.244	.270	.253	.280	.324	.343		.342	.340	.322	.322	.261	.204	.210	.193	.268	.261	.190	.127	.133	.120	.053	.050	.047
12	41.54	18.66	.157	.199	.317	.299	.259	.254	.278	.260	.283	.326	.346	.355		.350	.341	.334	.281	.230	.226	.213	.295	.284	.196	.131	.138	.135	.026	.035	.036
13	41.56	16.97	.192	.242	.361	.369	.350	.349	.378	.358	.384	.399	.395	.392	.406		.438	.428	.369	.324	.306	.282	.322	.306	.150	.138	.122	.120	.017	.029	.011
14	38.68	14.39	.177	.260	.349	.334	.323	.316	.352	.337	.363	.371	.367	.354	.380	.383		.414	.349	.293	.281	.260	.282	.250	.127	.101	.089	.129	.017	.039	.043
15	34.17	12.47	.141	.255	.308	.282	.284	.274	.308	.290	.321	.324	.306	.287	.316	.320	.294		.275	.254	.227	.220	.268	.246	.110	.063	.082	.147	.044	.071	.073
16	29.41	10.85	.141	.237	.311	.277	.260	.252	.288	.273	.296	.295	.264	.255	.275	.286	.266	.232		.207	.216	.184	.245	.233	.120	.089	.105	.150	.057	.065	.065
17	23.60	9.64	.110	.176	.272	.215	.156	.174	.214	.200	.215	.202	.182	.166	.185	.187	.208	.154	.118		.157	.176	.236	.185	.096	.053	.139	.134	.051	.034	.044
18	17.56	8.56	.166	.213	.297	.266	.238	.213	.237	.221	.235	.231	.206	.188	.213	.225	.211	.177	.148	.148		.246	.232	.204	.161	.098	.095	.129	.064	.032	.074
19	11.58	7.86	.159	.269	.301	.259	.231	.182	.202	.175	.178	.167	.138	.125	.149	.149	.122	.113	.142	.141	.173		.263	.235	.133	.132	.074	.022	.017	.008	.016
20	6.55	7.73	.208	.216	.275	.207	.202	.160	.161	.149	.133	.117	.105	.095	.099	.100	.052	.076	.096	.050	.079	.209		.278	.160	.147	.174	.011	.039	-.014	-.006
21	3.47	7.16	.036	.049	.058	-.011	-.036	-.051	-.066	-.088	-.101	-.110	-.106	-.106	-.119	-.097	-.123	-.096	-.074	-.085	-.001	.042	.080		.159	.141	.202	.070	.083	.042	.072
22	1.68	7.46	.034	.036	.012	-.064	-.097	-.129	-.146	-.157	-.167	-.201	-.151	-.198	-.200	-.187	-.211	-.194	-.202	-.181	-.113	-.042	-.012	-.022		.122	.131	-.038	.064	-.017	.007
23	0.64	7.26	.044	.056	.064	-.022	-.071	-.088	-.097	-.114	-.127	-.159	-.155	-.153	-.145	-.125	-.138	-.157	-.119	-.130	-.045	.050	.091	.012	.004		.149	.059	.048	.015	-.014
24	0.45	7.28	.018	.054	.057	.010	.012	-.017	.012	-.002	-.004	-.021	-.042	-.032	.022	-.007	-.036	.003	.045	.031	.056	.095	.132	.064	.081	.038		.107	.071	.047	.062
25	0.35	7.79	-.151	-.131	-.106	-.153	-.188	-.228	-.239	-.241	-.264	-.284	-.262	-.243	-.244	-.260	-.247	-.234	-.204	-.171	-.132	-.099	-.040	.018	.085	.119	-.002		.158	.105	.071
26	0.71	8.29	-.178	-.097	-.121	-.160	-.169	-.208	-.223	-.228	-.230	-.240	-.240	-.221	-.220	-.224	-.243	-.287	-.260	-.220	-.144	-.152	-.085	.079	-.012	.068	.007	-.036		.059	.091
27	0.86	9.08	-.141	-.078	-.117	-.152	-.173	-.210	-.213	-.238	-.221	-.190	-.153	-.132	-.141	-.185	-.211	-.221	-.217	-.219	-.174	-.124	-.150	-.033	.003	-.045	-.001	-.013	-.103		.024

TABLE II.3 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

MARCH

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.06	1.78	1.42	1.34	1.14	1.28	1.73	2.02	2.23	2.26	2.29	2.02	2.25	2.47	1.80	1.63	1.56	1.76	1.15	0.73	0.59	0.16	0.08	-0.08	-0.20	-0.39	-0.46	-0.50
			SD	3.99	6.31	6.23	6.70	7.38	7.83	8.73	9.83	10.52	12.72	14.35	16.46	15.87	13.88	10.93	9.49	8.12	7.18	5.93	4.93	4.40	4.00	4.01	3.85	4.02	3.63	3.47	3.67
SFC	0.25	3.46	SFC	-.197	.157	.027	-.097	-.130	-.147	-.168	-.179	-.194	-.193	-.206	-.192	-.172	-.143	-.113	-.097	-.095	-.102	-.123	-.088	-.053	-.042	.045	.057	.052	.107	.099	.132
1	3.56	6.91	1	-.338	-.021	-.078	-.154	-.163	-.164	-.166	-.189	-.207	-.224	-.243	-.222	-.181	-.138	-.080	-.105	-.070	-.119	-.118	-.084	-.025	-.066	-.045	-.038	-.003	.039	.015	.056
2	7.70	6.92	2	-.228	-.000	.018	-.023	-.036	-.034	-.043	-.067	-.077	-.126	-.154	-.138	-.092	-.062	-.030	-.116	-.057	-.162	-.182	-.089	-.080	-.074	-.025	.029	.016	.064	.014	.026
3	11.29	7.86	3	-.140	.093	.135	.092	.069	.064	.035	.011	-.020	-.077	-.114	-.094	-.056	-.056	-.032	-.106	-.068	-.145	-.195	-.067	-.116	-.082	-.030	.025	-.018	.030	-.029	.005
4	14.92	8.80	4	-.055	.107	.143	.113	.088	.103	.056	.023	-.011	-.066	-.099	-.083	-.039	-.058	-.040	-.116	-.096	-.161	-.208	-.105	-.075	-.107	-.068	-.013	-.063	-.002	-.046	-.019
5	18.93	9.64	5	.060	.188	.216	.183	.164	.170	.124	.096	.066	.022	-.008	-.003	.021	-.024	-.009	-.062	-.068	-.133	-.188	-.085	-.064	-.131	-.083	-.051	-.075	-.034	-.068	-.033
6	22.70	10.10	6	.140	.262	.292	.260	.246	.260	.203	.165	.130	.088	.028	.032	.065	-.008	-.006	-.056	-.065	-.125	-.149	-.071	-.034	-.102	-.050	-.035	-.061	-.025	-.076	-.047
7	26.50	11.02	7	.193	.296	.328	.300	.302	.309	.266	.214	.183	.134	.067	.071	.091	.020	.023	-.040	-.056	-.112	-.133	-.090	-.040	-.100	-.063	-.039	-.063	-.060	-.092	-.074
8	30.28	11.95	8	.182	.273	.317	.296	.301	.315	.280	.234	.209	.151	.086	.087	.118	.064	.054	-.007	-.053	-.089	-.096	-.087	-.012	-.104	-.060	-.063	-.100	-.095	-.104	-.098
9	34.18	13.30	9	.204	.283	.338	.308	.314	.327	.287	.250	.218	.158	.085	.095	.112	.078	.045	-.051	-.071	-.063	-.073	-.074	-.001	-.048	-.025	-.041	-.096	-.095	-.098	-.121
10	38.24	14.79	10	.238	.300	.355	.330	.349	.350	.305	.259	.228	.172	.096	.099	.117	.094	.070	-.015	-.054	-.043	-.036	-.050	.017	-.036	-.015	-.040	-.103	-.100	-.102	-.112
11	42.16	15.59	11	.206	.276	.328	.309	.309	.308	.256	.205	.155	.156	.079	.078	.117	.097	.058	-.036	-.079	-.076	-.037	-.041	.020	-.049	-.044	-.048	-.081	-.102	-.107	-.114
12	45.27	15.58	12	.213	.263	.308	.309	.326	.322	.273	.227	.223	.182	.126	.112	.132	.126	.085	-.027	-.096	-.070	-.024	-.040	.006	-.036	-.056	-.042	-.125	-.128	-.121	-.148
13	45.25	13.80	13	.190	.243	.288	.295	.326	.319	.285	.233	.223	.200	.147	.136	.137	.133	.131	.002	-.054	-.059	-.027	-.045	.044	-.007	-.031	-.064	-.106	-.118	-.095	-.133
14	41.77	12.39	14	.166	.207	.254	.256	.264	.270	.232	.191	.175	.146	.100	.088	.110	.088	.067	.014	-.035	-.052	-.024	-.037	.028	-.064	-.052	-.114	-.110	-.095	-.081	-.063
15	36.34	10.69	15	.196	.209	.263	.275	.267	.264	.228	.189	.164	.134	.091	.084	.105	.098	.052	.040	.036	-.022	-.008	-.006	.080	-.043	-.053	-.115	-.094	-.057	-.061	-.058
16	30.60	9.65	16	.111	.159	.227	.224	.204	.187	.163	.129	.102	.076	.043	.045	.075	.071	.056	-.006	.032	.024	-.046	.028	.059	-.060	-.052	-.125	-.130	-.080	-.094	-.077
17	24.80	8.93	17	.180	.196	.267	.280	.270	.266	.233	.207	.181	.159	.124	.113	.147	.145	.155	.080	.000	.017	.010	.042	.050	-.027	-.057	-.116	-.120	-.063	-.053	-.036
18	18.14	8.07	18	.190	.218	.285	.291	.270	.270	.243	.229	.194	.174	.137	.121	.136	.127	.125	.129	.026	.000	.015	.101	.081	-.103	-.053	-.125	-.116	-.035	-.034	-.020
19	11.02	7.46	19	.182	.221	.267	.296	.235	.235	.211	.216	.198	.200	.140	.125	.140	.108	.058	.096	.060	.024	.014	.107	.099	-.046	.034	-.085	-.060	.006	-.092	-.038
20	6.54	7.19	20	.143	.170	.211	.245	.229	.201	.200	.209	.184	.175	.143	.109	.150	.167	.152	.090	.073	.062	.072	.104	.102	.060	-.011	-.010	-.058	-.002	-.053	-.092
21	3.07	6.55	21	.024	.094	.101	.130	.150	.134	.129	.130	.127	.122	.088	.066	.076	.112	.070	.037	.023	-.064	.015	.046	-.065	.060	-.035	-.039	-.069	-.053	-.106	-.122
22	1.22	6.79	22	.066	.077	.080	.117	.109	.079	.102	.103	.092	.063	.007	-.030	-.032	-.024	-.040	-.012	.009	-.037	-.048	.017	.016	-.053	.061	.003	-.018	-.027	-.065	-.116
23	-0.43	6.53	23	.035	.077	.105	.118	.121	.093	.125	.129	.124	.082	.074	.049	.047	.051	.006	-.007	.044	.002	.013	.077	-.032	.080	.021	.049	.090	.057	.067	-.018
24	-0.90	6.70	24	.026	.076	.084	.116	.119	.088	.120	.109	.083	.054	.027	-.003	-.000	-.011	.013	.072	.128	.060	.061	.087	.048	.048	-.006	-.035	.072	.094	.084	.024
25	-0.34	7.70	25	-.065	-.030	.005	.013	-.024	-.036	-.006	-.033	-.044	-.047	-.066	-.097	-.045	-.042	-.003	.047	.141	.067	.090	.129	.132	.141	.096	.062	.032	.119	.113	.061
26	0.50	8.12	26	-.059	-.024	.066	.045	.005	-.026	-.016	-.036	-.017	-.019	-.016	-.025	.012	-.009	.014	.031	.134	.110	.112	.120	.085	.179	.062	.124	.052	.024	.053	.006
27	0.43	9.18	27	.015	-.007	.083	.104	.074	.042	.055	.030	.025	.013	.005	.022	.029	.056	.040	.148	.176	.130	.203	.248	.139	.131	.152	.106	.087	-.000	.013	.027

TABLE II. 4 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

APRIL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO - ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL SD	0.30	1.32	0.65	-0.16	-0.65	-0.84	-1.11	-1.56	-1.85	-1.91	-2.08	-2.81	-3.48	-3.75	-3.25	-2.31	-2.14	-1.66	-1.42	-0.81	-0.58	-0.92	-0.69	-0.84	-0.84	-0.92	-0.87	-0.96
				3.51	5.74	5.66	6.55	7.15	7.23	7.77	8.49	9.15	10.38	11.96	13.74	14.95	13.98	11.87	9.35	8.21	6.88	5.42	4.59	4.20	3.54	3.33	3.22	3.19	3.24	3.11	3.31
SFC	-0.92	3.57	-.167	.147	.014	-.111	-.129	-.147	-.151	-.153	-.161	-.186	-.175	-.167	-.147	-.139	-.123	-.149	-.200	-.189	-.166	-.169	-.147	-.189	-.155	-.158	-.090	-.149	-.079	-.061	
1	1.14	7.11	-.275	-.017	-.055	-.149	-.164	-.162	-.152	-.170	-.189	-.232	-.232	-.210	-.150	-.112	-.094	-.108	-.180	-.134	-.113	-.138	-.125	-.133	-.114	-.154	-.142	-.162	-.031	-.012	
2	3.81	7.61	-.155	.077	.073	-.016	-.031	-.031	-.025	-.044	-.072	-.101	-.118	-.108	-.060	-.031	-.026	-.063	-.129	-.101	-.055	-.114	-.080	-.122	-.105	-.141	-.118	-.107	.010	.027	
3	6.43	8.66	-.077	.104	.093	.035	.017	.018	.004	-.007	-.030	-.056	-.069	-.064	-.023	.017	-.006	-.048	-.096	-.087	-.065	-.102	-.022	-.131	-.105	-.150	-.103	-.061	.057	.090	
4	9.20	9.55	-.051	.127	.141	.102	.076	.051	.042	.031	.001	-.034	-.043	-.027	.018	.058	.040	-.009	-.071	-.047	-.044	-.076	-.022	-.117	-.101	-.162	-.130	-.077	.054	.092	
5	12.02	10.65	.015	.192	.201	.160	.147	.125	.104	.094	.062	.026	.018	.019	.064	.095	.086	.049	-.011	-.003	.005	-.027	.062	-.015	-.015	-.075	-.043	.002	.119	.160	
6	14.84	11.76	.075	.220	.260	.239	.214	.185	.152	.148	.120	.093	.085	.083	.124	.154	.125	.097	.053	.046	.043	.001	.113	.019	.033	-.015	-.007	.039	.157	.183	
7	17.75	12.74	.072	.226	.265	.254	.229	.206	.186	.174	.161	.138	.142	.135	.172	.199	.172	.144	.098	.094	.090	.033	.150	.035	.029	.008	.018	.051	.184	.204	
8	21.05	13.94	.082	.220	.271	.260	.240	.208	.189	.177	.163	.137	.152	.151	.183	.197	.172	.155	.111	.103	.107	.033	.152	.053	.023	.016	.022	.056	.190	.220	
9	24.13	15.80	.119	.230	.286	.282	.268	.243	.224	.200	.191	.174	.193	.184	.219	.223	.212	.193	.150	.140	.153	.068	.191	.106	.084	.078	.082	.108	.204	.220	
10	27.35	16.94	.141	.223	.259	.305	.288	.275	.253	.237	.239	.231	.245	.233	.263	.261	.250	.236	.196	.171	.190	.125	.183	.103	.083	.074	.092	.132	.227	.225	
11	30.87	18.13	.140	.211	.270	.280	.267	.250	.234	.209	.210	.204	.222	.211	.233	.228	.228	.200	.171	.157	.184	.109	.176	.101	.059	.050	.074	.116	.201	.202	
12	34.20	18.51	.132	.186	.234	.259	.250	.235	.222	.200	.159	.183	.198	.199	.219	.211	.202	.176	.148	.153	.162	.095	.157	.075	.036	.022	.065	.114	.192	.188	
13	35.95	17.77	.166	.205	.248	.275	.270	.255	.247	.223	.225	.219	.240	.241	.238	.233	.239	.206	.165	.169	.176	.100	.175	.104	.059	.039	.055	.106	.180	.157	
14	33.37	15.70	.181	.216	.273	.296	.305	.283	.285	.269	.256	.251	.261	.263	.265	.248	.248	.233	.192	.180	.208	.148	.180	.132	.058	.043	.087	.113	.176	.147	
15	29.14	13.06	.181	.209	.257	.276	.285	.277	.279	.269	.248	.242	.248	.257	.281	.271	.252	.221	.159	.186	.211	.151	.171	.124	.038	.019	.050	.082	.157	.157	
16	23.85	11.12	.138	.176	.247	.271	.272	.261	.260	.245	.225	.214	.223	.235	.262	.265	.267	.195	.160	.190	.158	.135	.193	.107	.021	-.014	-.013	.037	.132	.148	
17	18.08	9.85	.212	.296	.350	.354	.342	.328	.320	.295	.281	.273	.275	.282	.303	.323	.315	.255	.190	.172	.203	.164	.254	.121	.066	.041	.085	.128	.178	.189	
18	11.54	8.12	.216	.285	.301	.291	.282	.274	.276	.258	.238	.230	.237	.240	.236	.281	.251	.241	.179	.122	.177	.178	.159	.129	.043	.025	.040	.134	.166	.145	
19	5.87	7.48	.198	.314	.326	.292	.264	.277	.281	.273	.247	.235	.242	.260	.278	.300	.275	.246	.189	.149	.175	.215	.156	.129	.038	-.005	.014	.015	.097	.108	
20	2.14	6.34	.167	.235	.253	.216	.204	.185	.206	.205	.172	.169	.171	.185	.203	.231	.190	.169	.143	.211	.196	.132	.157	.212	.027	.080	.037	.004	.017	.033	
21	-0.42	5.75	.033	.114	.132	.104	.085	.089	.103	.116	.088	.076	.101	.122	.138	.141	.138	.165	.130	.111	.127	.115	.072	.163	.125	.084	.057	-.021	.013	.002	
22	-2.25	5.20	.115	.140	.149	.126	.136	.130	.114	.119	.096	.088	.095	.112	.112	.119	.103	.102	.085	.057	.063	.086	.092	.113	.054	.074	.072	.060	.068	.013	
23	-2.55	5.34	-.040	-.005	.005	.003	.026	.016	.004	-.001	-.008	-.004	.025	.033	.039	.060	.074	.062	.013	.036	.010	.012	.076	.073	-.031	-.019	.057	.086	.125	.067	
24	-3.33	5.60	-.009	.039	.016	.020	.025	.018	.026	.027	.027	.036	.077	.071	.089	.080	.113	.086	.047	.052	.022	.025	.077	.089	.060	.020	.088	.151	.206	.129	
25	-3.08	6.21	.027	.054	-.000	.017	.052	.038	.030	.032	.022	.025	.065	.056	.061	.067	.111	.120	.079	.072	.060	.024	.071	.105	.135	.131	.084	.229	.235	.177	
26	-3.04	6.95	-.041	-.033	-.037	-.023	.001	-.020	-.020	-.016	-.032	-.038	-.026	-.022	-.018	.005	.061	.088	.064	.053	.038	.023	.068	.133	.091	.108	.082	.100	.181	.146	
27	-2.43	7.12	.009	-.030	-.031	-.012	-.001	-.006	-.010	.001	-.024	-.049	-.035	-.040	-.047	-.032	.013	.035	.012	.019	-.010	-.026	.057	.090	.065	.022	.078	.050	.081	.052	

TABLE II. 5 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

MAY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km → MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN		0.50	0.83	-0.37	-0.44	-0.36	-0.28	-0.27	-0.18	0.29	0.32	0.51	0.60	0.45	-0.84	-1.63	-2.59	-2.00	-2.60	-2.23	-1.56	-1.31	-0.82	-0.74	-0.50	-0.40	-0.56	-0.58	-0.95
			SD		2.59	4.19	4.53	4.92	5.50	5.78	6.52	7.29	8.31	9.61	10.95	12.34	13.56	13.40	11.86	9.67	7.63	6.06	4.71	3.68	2.94	2.72	2.00	2.80	2.87	3.10	3.22	3.19
SFC	-1.85	3.16	-.000	.270	.139	.132	.078	.031	.005	.007	-.028	-.041	-.072	-.070	-.082	-.069	-.096	-.089	-.061	-.028	-.002	.048	.041	.057	-.001	.015	-.074	-.131	-.156	-.129	
1	-0.95	5.21	-.122	.094	.124	.128	.107	.065	.029	.035	.013	-.029	-.063	-.046	-.044	-.035	-.000	.000	.009	.069	.067	.065	.010	-.012	-.034	-.050	-.132	-.142	-.115	-.107	
2	0.28	5.58	-.030	.182	.288	.309	.276	.229	.200	.212	.151	.146	.115	.130	.129	.116	.160	.161	.149	.182	.173	.132	.067	.045	-.001	-.010	-.123	-.133	-.095	-.058	
3	1.39	6.01	.042	.205	.274	.324	.315	.266	.248	.254	.220	.192	.163	.180	.185	.177	.208	.192	.154	.186	.181	.125	.040	.012	-.028	-.032	-.128	-.132	-.090	-.052	
4	2.62	6.61	.028	.189	.230	.293	.329	.285	.256	.242	.207	.184	.145	.176	.177	.154	.167	.155	.144	.171	.153	.108	.048	.005	-.017	.009	-.062	-.063	-.043	-.013	
5	4.05	7.01	.001	.199	.238	.310	.338	.302	.268	.265	.236	.205	.170	.194	.186	.160	.173	.175	.147	.185	.160	.098	.041	.011	-.022	.016	-.051	-.053	-.049	-.036	
6	5.36	7.67	-.000	.178	.237	.303	.326	.291	.273	.274	.251	.241	.215	.229	.222	.199	.216	.212	.184	.205	.212	.150	.075	.043	.019	.041	-.026	-.031	-.018	-.005	
7	6.93	8.35	.012	.186	.256	.321	.362	.334	.314	.299	.285	.279	.266	.275	.270	.254	.252	.240	.219	.208	.192	.147	.076	.058	.018	.043	.006	.024	.016	.021	
8	8.34	9.17	.040	.189	.282	.360	.404	.370	.356	.353	.320	.304	.300	.308	.300	.294	.286	.286	.256	.255	.224	.174	.102	.055	.045	.054	.025	.040	.046	.048	
9	9.94	10.07	.060	.185	.288	.358	.407	.378	.362	.373	.358	.339	.335	.347	.339	.333	.332	.323	.273	.268	.244	.179	.095	.049	.038	.041	.020	.031	.045	.031	
10	11.96	11.54	.089	.191	.279	.366	.411	.380	.369	.381	.370	.362	.378	.383	.380	.380	.375	.343	.288	.274	.252	.166	.071	.038	.020	.018	-.019	.001	.014	-.002	
11	14.75	12.80	.103	.193	.296	.365	.403	.375	.371	.386	.380	.380	.385	.402	.399	.391	.388	.360	.310	.283	.265	.179	.089	.050	.024	.017	-.011	.002	.015	.017	
12	17.26	14.10	.099	.170	.289	.362	.405	.375	.373	.401	.389	.390	.402	.415	.413	.416	.406	.373	.313	.299	.291	.202	.105	.053	.026	.022	-.010	.002	.020	.022	
13	19.47	14.54	.105	.158	.271	.346	.394	.366	.369	.398	.392	.403	.417	.434	.423	.410	.415	.386	.312	.304	.290	.212	.106	.053	.032	.036	.020	.026	.033	.026	
14	19.16	12.70	.124	.196	.276	.346	.393	.389	.403	.431	.424	.434	.434	.444	.435	.400	.429	.431	.346	.330	.325	.256	.128	.074	.049	.068	.043	.045	.070	.061	
15	16.12	10.33	.165	.250	.332	.395	.441	.433	.443	.463	.460	.481	.478	.486	.480	.451	.444	.456	.417	.372	.350	.281	.145	.097	.065	.077	.036	.068	.081	.090	
16	12.04	8.49	.169	.240	.348	.410	.439	.446	.451	.464	.465	.491	.484	.495	.490	.462	.463	.442	.422	.414	.372	.297	.157	.104	.079	.095	.044	.080	.098	.067	
17	7.39	7.00	.188	.266	.364	.416	.434	.436	.435	.445	.443	.456	.436	.439	.437	.418	.419	.425	.373	.377	.380	.324	.179	.105	.066	.056	.018	.058	.068	.047	
18	3.13	5.96	.200	.283	.338	.381	.424	.415	.412	.417	.405	.405	.387	.377	.366	.347	.360	.371	.320	.271	.300	.291	.161	.094	.027	.043	-.001	.038	.031	.038	
19	-0.46	4.86	.227	.286	.322	.345	.347	.341	.354	.375	.367	.367	.334	.336	.329	.315	.305	.313	.310	.289	.156	.220	.305	.172	.049	.028	.027	.035	.041	.024	
20	-2.86	4.45	.153	.200	.258	.260	.252	.282	.273	.269	.248	.229	.230	.243	.220	.205	.200	.221	.212	.173	.128	.088	.192	.230	.077	.015	-.004	.021	-.016	-.057	
21	-4.68	4.15	.142	.178	.144	.133	.167	.175	.167	.130	.126	.128	.127	.109	.112	.134	.141	.098	.106	.102	.089	.038	-.081	.013	.054	.090	.005	-.003	-.011	-.043	
22	-5.85	4.02	.136	.145	.087	.094	.135	.138	.116	.109	.109	.117	.082	.062	.062	.079	.064	.045	.075	.054	-.009	-.013	-.101	-.216	-.085	.104	.014	.017	-.026	-.048	
23	-6.78	4.07	.119	.085	.027	.041	.057	.015	.025	.024	.009	.020	.026	.015	.021	.026	.020	.015	.013	-.021	-.056	-.050	-.045	-.132	-.178	-.090	.051	.033	-.000	-.081	
24	-7.38	4.57	.054	.041	-.012	.004	.034	-.000	.009	.010	-.016	-.007	-.007	-.019	-.020	-.021	-.018	-.016	-.000	-.014	.000	-.003	.035	.006	-.025	-.084	.019	.134	.062	.002	
25	-7.74	4.87	.050	.060	.029	.008	-.004	-.014	-.016	-.017	-.044	-.029	-.020	-.035	-.021	.001	-.005	-.014	.019	-.010	.032	.055	.051	.050	.034	-.041	-.139	-.007	.062	-.030	
26	-8.01	5.19	.003	.022	.046	.051	.069	.063	.071	.073	.067	.107	.115	.078	.079	.095	.092	.095	.125	.054	.092	.075	.071	.076	.040	.063	-.020	.010	.056	.077	
27	-7.90	5.57	.035	.026	.026	.058	.062	.043	.033	.049	.051	.070	.071	.042	.053	.066	.069	.085	.104	.071	.052	.079	.068	.092	.025	.036	-.002	.020	-.038	.005	

TABLE II.6 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

JUNE

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.05	1.86	1.09	0.92	0.72	0.37	-0.08	-0.23	-0.42	-0.52	-0.86	-1.32	-2.34	-3.70	-4.73	-5.34	-4.59	-3.23	-2.24	-1.28	-0.00	-0.62	-0.46	-0.36	-0.42	-0.56	-0.58	-0.71
			SD	2.57	3.66	3.71	3.77	3.83	3.94	4.13	4.34	4.56	4.16	7.24	8.78	10.26	10.55	5.35	7.22	5.25	4.11	3.24	2.76	2.80	2.71	3.16	3.16	2.84	2.81	2.96	2.98
SFC	-0.98	2.76		-.024	.273	.208	.123	.081	.094	.070	.046	.000	-.017	-.041	-.033	-.037	-.062	-.071	-.083	-.100	-.096	-.026	-.008	.009	-.005	-.030	-.050	-.122	-.131	-.131	-.131
1	0.79	4.71		.036	.237	.161	.111	.106	.045	.083	.049	.001	-.014	-.046	-.021	-.027	-.029	-.016	-.008	-.041	-.076	-.055	-.094	-.165	-.153	-.174	-.153	-.161	-.132	-.128	-.145
2	1.81	4.77		.126	.280	.221	.191	.148	.107	.087	.053	.032	.026	-.001	.027	.012	.009	.001	-.030	-.064	-.044	-.031	-.089	-.170	-.185	-.196	-.152	-.120	-.088	-.066	-.135
3	2.32	4.67		.133	.250	.199	.193	.150	.116	.124	.091	.081	.048	.022	.044	.031	.026	.028	.007	-.031	-.012	.007	-.072	-.142	-.152	-.177	-.118	-.119	-.087	-.042	-.068
4	2.74	4.91		.074	.187	.160	.180	.166	.122	.118	.103	.077	.067	.045	.058	.047	.046	.047	.002	-.027	-.010	.004	-.078	-.129	-.129	-.170	-.110	-.127	-.073	-.043	-.064
5	3.01	5.14		-.017	.119	.146	.168	.159	.102	.104	.101	.071	.048	.037	.053	.044	.048	.046	-.004	-.028	-.020	-.013	-.099	-.119	-.140	-.208	-.153	-.134	-.084	-.056	-.110
6	3.27	5.55		.027	.179	.194	.197	.196	.163	.129	.108	.089	.057	.037	.065	.053	.058	.072	.028	.013	.023	.014	-.073	-.069	-.068	-.136	-.088	-.103	-.052	-.038	-.077
7	3.63	6.26		-.031	.085	.125	.140	.146	.127	.108	.130	.112	.086	.055	.071	.073	.075	.082	.040	.040	.003	.023	-.094	-.080	-.050	-.106	-.065	-.062	-.017	-.013	-.067
8	4.07	6.74		-.018	.078	.133	.131	.125	.114	.096	.136	.106	.064	.041	.053	.062	.076	.068	.025	.018	-.019	-.015	-.115	-.090	-.060	-.058	-.055	-.041	-.012	-.016	-.088
9	4.72	7.87		-.010	.080	.094	.075	.074	.069	.061	.106	.074	.048	.022	.045	.054	.064	.052	.005	.008	-.040	-.039	-.113	-.105	-.061	-.069	-.050	-.051	-.026	-.014	-.066
10	5.18	9.14		-.001	.017	.051	.026	.035	.044	.052	.083	.051	.037	.028	.024	.026	.027	.028	-.018	-.006	-.033	-.034	-.094	-.100	-.059	-.053	-.013	-.003	.012	.028	-.019
11	5.93	10.29		-.028	-.040	-.012	-.024	-.016	-.007	.010	.045	.030	.023	.013	.029	.031	.038	.035	-.016	-.005	-.034	-.053	-.113	-.122	-.081	-.052	.004	.025	.034	.045	.003
12	7.00	11.89		-.067	-.063	-.039	-.026	-.026	-.010	.016	.061	.045	.035	.031	.050	.060	.070	.067	.024	.040	-.014	-.037	-.091	-.077	-.033	-.018	.035	.045	.052	.083	.046
13	7.75	12.39		-.049	-.051	-.025	-.016	-.011	.019	.041	.082	.066	.048	.037	.046	.040	.049	.066	.030	.037	.025	-.042	-.080	-.040	-.002	-.001	.021	.045	.076	.091	.072
14	6.54	11.22		-.036	-.012	-.004	-.009	.015	.044	.040	.080	.067	.035	.015	.022	.008	-.017	.023	.034	.032	-.025	-.027	-.075	-.044	-.038	-.060	-.035	-.007	.030	.083	.058
15	4.15	9.39		.021	-.000	.011	.009	.022	.031	.028	.066	.032	-.001	-.021	-.021	-.024	-.039	-.027	-.023	.000	.006	-.010	-.054	-.032	-.060	-.102	-.073	-.040	-.020	.046	.014
16	1.04	7.01		.084	.088	.076	.051	.055	.070	.072	.057	.052	.024	-.005	-.011	-.021	-.027	-.028	-.077	.016	.084	.056	-.010	.005	-.030	-.058	-.099	-.069	-.045	.004	-.030
17	-1.78	5.22		.087	.083	.054	.025	.008	.016	.034	.043	.020	-.027	-.033	-.055	-.068	-.083	-.072	-.094	-.086	-.008	.083	.023	.041	-.042	-.134	-.152	-.140	-.135	-.108	-.133
18	-4.51	4.29		-.011	.091	.086	.089	.067	.047	.066	.059	.024	-.009	-.025	-.048	-.066	-.073	-.054	-.057	-.044	-.067	.035	.150	.120	.026	-.055	-.109	-.139	-.129	-.085	-.100
19	-6.85	3.75		.017	.101	.061	.046	.041	.025	.067	.087	.037	.014	-.005	-.002	-.016	-.022	.004	.032	.040	.021	-.030	.030	.220	.189	.065	-.055	-.143	-.185	-.168	-.141
20	-8.70	3.97		.029	.105	.050	.039	.040	.044	.056	.086	.087	.077	.061	.056	.044	.044	.063	.059	.083	.073	.064	-.062	.110	.234	.165	.027	-.079	-.149	-.143	-.096
21	-10.25	3.97		.125	.122	.064	.090	.092	.114	.082	.091	.089	.050	.052	.046	.018	.025	.057	.079	.106	.112	.085	-.038	-.104	-.019	.157	.104	.047	-.007	.024	.030
22	-11.71	3.79		.199	.132	.020	.095	.104	.082	.060	.066	.062	.054	.062	.048	.046	.046	.050	.073	.089	.114	.060	-.002	-.127	-.242	-.084	.134	.152	.059	.059	-.022
23	-12.68	3.89		.211	.150	.056	.105	.122	.109	.099	.108	.124	.123	.145	.116	.118	.115	.095	.098	.071	.122	.107	.018	-.040	-.166	-.210	-.067	.111	.171	.124	.014
24	-13.73	4.06		.159	.115	.056	.108	.108	.105	.105	.107	.094	.093	.133	.102	.089	.077	.062	.050	.036	.035	.066	-.051	-.050	-.095	-.184	-.231	-.055	.130	.105	.018
25	-14.57	4.32		.068	.058	.050	.108	.133	.112	.113	.130	.120	.136	.161	.128	.118	.105	.116	.096	.061	.021	.074	.014	.022	.004	-.070	-.129	-.147	-.022	.087	.059
26	-15.07	4.39		-.040	-.000	-.014	.001	.009	-.006	-.027	-.015	.003	.016	.016	.024	.032	.027	.045	.054	.064	.104	.094	.102	.112	.148	.107	-.020	-.101	-.159	-.077	.049
27	-15.47	4.74		-.041	.032	.053	.047	.019	-.018	-.035	-.019	.010	.016	-.016	.010	.018	.018	.039	.021	.044	.095	.110	.140	.169	.135	.054	-.001	-.072	-.140	-.175	-.049

TABLE II. 7 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

JULY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.61	2.79	1.94	1.65	1.40	0.93	0.59	0.27	-0.18	-0.77	-1.45	-2.34	-3.35	-4.55	-5.01	-4.01	-2.70	-1.97	-1.14	-0.92	-0.90	-0.58	-0.35	-0.35	-0.42	-0.73	-0.79	-0.98
			SD	1.85	3.29	3.34	3.21	3.51	3.74	4.17	4.38	4.75	5.44	6.26	6.98	7.52	8.17	7.35	5.68	4.31	3.58	2.99	2.79	2.56	2.80	3.33	3.29	2.59	2.89	3.07	3.44
SFC	-0.71	2.53		-.058	.188	.187	.154	.138	.130	.132	.062	.012	.010	.021	.009	-.030	-.039	-.057	-.052	.004	-.030	.025	.022	.089	.135	.052	-.057	-.037	-.007	.036	-.027
1	0.88	4.61	-.114	-.080	-.048	-.105	-.045	-.046	-.051	-.043	-.074	-.021	.027	.042	.064	.069	.063	.011	-.005	-.070	-.004	-.094	-.111	-.089	-.082	-.089	-.068	-.032	-.094	-.073
2	1.20	4.55	.015	.056	.056	.060	.085	.079	.072	.086	.058	.100	.157	.128	.129	.142	.131	.114	.087	.031	.062	-.070	-.093	-.066	-.048	-.054	-.052	-.020	-.080	-.021
3	1.30	4.46	-.016	.014	.022	.041	.070	.061	.065	.064	.057	.104	.149	.141	.153	.168	.172	.102	.041	.015	.013	-.047	-.091	-.094	-.090	-.056	-.125	-.074	-.127	-.055
4	1.26	4.63	-.064	-.099	-.088	-.026	.020	.004	.019	.030	.051	.098	.134	.143	.164	.184	.187	.113	.043	.045	.016	-.016	-.044	-.061	-.107	-.122	-.150	-.090	-.120	-.080
5	0.94	4.73	-.103	-.126	-.135	-.081	-.041	-.023	-.021	-.012	-.007	.038	.073	.088	.116	.134	.127	.047	.059	.031	.016	-.034	-.036	-.066	-.096	-.118	-.128	-.091	-.138	-.107
6	0.55	4.86	-.129	-.149	-.156	-.110	-.056	-.032	-.044	-.028	-.053	.006	.035	.061	.094	.099	.086	.014	.041	.012	.013	-.063	-.107	-.123	-.103	-.120	-.135	-.094	-.121	-.134
7	-0.22	4.87	-.103	-.139	-.139	-.109	-.040	.004	.018	.048	.046	.092	.102	.116	.137	.133	.111	.057	.064	.029	.047	-.009	-.087	-.091	-.065	-.089	-.132	-.081	-.097	-.111
8	-0.70	5.36	-.129	-.163	-.141	-.111	-.054	-.004	.025	.073	.096	.116	.118	.145	.142	.139	.120	.100	.106	.043	.019	-.030	-.087	-.084	-.078	-.053	-.120	-.125	-.123	-.172
9	-1.39	6.32	-.126	-.133	-.095	-.058	-.023	.033	.056	.127	.164	.194	.188	.217	.210	.197	.181	.160	.136	.074	.042	.013	-.048	-.045	-.064	-.055	-.086	-.102	-.094	-.162
10	-1.86	7.23	-.127	-.110	-.091	-.049	.000	.049	.062	.135	.185	.210	.232	.249	.244	.220	.216	.187	.121	.056	.050	-.017	-.055	-.043	-.087	-.097	-.105	-.125	-.104	-.128
11	-2.39	8.41	-.118	-.083	-.052	-.024	.005	.053	.064	.135	.185	.211	.216	.250	.237	.224	.226	.196	.131	.060	.030	.014	-.004	-.014	-.072	-.076	-.098	-.097	-.096	-.119
12	-3.19	9.26	-.112	-.082	-.056	-.018	.013	.054	.072	.129	.175	.203	.206	.248	.220	.225	.240	.203	.157	.082	.048	.016	.003	-.000	-.056	-.061	-.077	-.090	-.096	-.112
13	-4.01	9.84	-.095	-.084	-.062	-.018	.013	.047	.062	.109	.155	.177	.165	.206	.180	.181	.220	.190	.151	.107	.028	.040	.016	.009	-.075	-.054	-.090	-.097	-.108	-.128
14	-4.37	8.41	-.106	-.081	-.073	-.026	.011	.056	.066	.102	.116	.140	.131	.169	.141	.122	.157	.206	.171	.130	.032	.015	.010	.033	-.029	-.017	-.083	-.105	-.082	-.093
15	-5.04	6.13	-.132	-.105	-.106	-.080	-.026	.032	.025	.064	.058	.073	.072	.113	.092	.095	.091	.167	.290	.197	.033	.022	.031	.041	-.018	-.044	-.089	-.094	-.128	-.143
16	-5.41	4.68	-.115	-.073	-.079	-.049	-.023	.043	.025	.054	.044	.044	.031	.056	.037	.060	.067	.087	.256	.338	.105	.058	.086	.059	.022	-.047	-.086	-.078	-.157	-.120
17	-6.51	3.72	-.032	-.015	-.058	-.049	-.038	-.016	-.032	.016	-.010	-.003	-.005	.008	.002	.021	.043	.118	.122	.184	.249	.079	.062	.062	-.000	-.034	-.096	-.054	-.120	-.077
18	-8.58	3.02	-.109	-.060	-.038	-.045	-.089	-.064	-.046	-.055	-.073	-.085	-.082	-.054	-.070	-.040	-.009	.053	.078	-.039	-.011	.282	.242	.186	.086	-.060	-.148	-.117	-.157	-.145
19	-10.85	2.88	-.148	-.051	.025	.039	.012	.013	-.016	-.050	-.041	-.039	-.040	-.036	-.034	-.048	-.010	.024	.093	.137	-.127	.163	.381	.368	.152	-.044	-.125	-.147	-.154	-.145
20	-13.28	3.65	-.070	-.034	-.020	-.048	-.056	.016	-.011	-.023	-.029	-.043	-.041	-.045	-.042	-.059	-.058	-.062	-.025	.001	-.030	-.106	.058	.216	.141	.014	-.065	-.109	-.102	-.114
21	-15.32	3.69	.188	.042	-.033	-.017	.007	-.003	-.031	-.027	-.071	-.096	-.104	-.118	-.126	-.125	-.140	-.093	-.036	-.044	.015	-.170	-.366	-.229	.103	.171	.076	.044	-.053	-.021
22	-16.73	3.39	.247	.065	-.032	-.035	.011	-.001	-.002	-.011	-.039	-.058	-.079	-.092	-.047	-.038	-.062	-.043	-.018	-.040	.051	-.192	-.456	-.409	-.200	.109	.202	.157	.066	.086
23	-17.00	3.42	.128	.017	-.071	-.068	-.017	-.037	-.035	-.042	-.052	-.058	-.091	-.099	-.051	-.038	-.063	-.041	-.027	-.112	-.009	-.211	-.380	-.355	-.282	-.075	.086	.152	.071	.084
24	-19.12	3.48	.040	-.010	-.072	-.052	-.012	-.022	-.035	-.046	-.062	-.076	-.083	-.125	-.110	-.102	-.067	-.036	-.001	-.044	-.047	-.123	-.190	-.177	-.152	-.213	-.113	.087	-.006	-.024
25	-20.03	3.78	.032	.018	-.035	-.028	-.020	-.013	-.021	-.007	-.020	-.049	-.076	-.080	-.092	-.095	-.079	-.002	.022	.085	-.013	-.039	-.042	-.081	-.173	-.206	-.222	-.022	-.003	.011
26	-20.62	4.37	.024	-.002	.010	.034	.032	.059	.004	.002	-.016	-.047	-.070	-.075	-.079	-.085	-.073	-.025	-.022	.062	-.025	.048	.069	.026	.054	-.062	-.186	-.215	-.114	.035
27	-21.07	4.70	.001	.014	.019	.051	.017	.023	-.005	.001	-.007	-.031	-.040	-.063	-.067	-.076	-.058	-.049	.030	.003	-.052	.058	.115	.131	.181	.060	-.106	-.154	-.160	-.066

TABLE II. 8 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

AUGUST

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.61	1.55	1.06	0.93	1.19	1.09	0.59	0.47	-0.08	-0.26	-0.52	-0.67	-1.21	-2.20	-2.86	-2.18	-1.59	-1.05	-0.72	-0.67	-0.51	-0.33	-0.30	-0.10	-0.13	-0.26	-0.78	-1.24
			SD	2.10	3.26	3.26	3.42	3.59	4.01	4.36	4.80	5.13	5.67	6.90	7.84	8.70	9.00	7.74	5.31	4.03	3.28	2.97	2.60	2.45	2.54	2.78	2.98	2.96	2.83	2.78	3.06
SFC	-0.57	2.39		.079	.336	.266	.152	.119	.112	.067	.003	-.047	-.094	-.092	-.126	-.130	-.152	-.159	-.179	-.174	-.083	-.064	-.003	.020	-.020	-.009	.016	-.054	-.115	-.115	-.103
1	0.19	4.43	-.016	.079		.077	.039	.039	.015	-.009	.002	-.015	-.031	-.025	-.044	-.037	-.057	-.097	-.120	-.145	-.056	-.031	-.082	-.084	-.117	-.075	.042	.064	.030	.082	.065
2	0.59	4.31	.048	.152	.203		.187	.165	.148	.147	.133	.113	.104	.101	.067	.062	.026	-.010	-.030	-.079	-.002	.035	-.045	-.070	-.057	-.072	.030	.095	.086	.116	.094
3	0.83	4.44	.025	.090	.174	.184		.169	.137	.171	.154	.142	.140	.142	.134	.123	.079	.050	.029	-.044	-.013	.035	-.010	-.034	-.073	-.065	.001	.051	.057	.075	.106
4	0.95	4.51	.027	.104	.167	.221	.208		.168	.199	.203	.161	.175	.180	.165	.156	.117	.092	.061	.014	.015	.070	.050	.031	-.025	-.008	.008	.012	.001	.046	.094
5	0.98	4.83	-.002	.071	.116	.169	.197	.175		.209	.223	.224	.206	.201	.183	.171	.118	.104	.086	.115	.102	.121	.097	.026	-.001	.028	.030	.030	.014	.051	.102
6	0.63	4.99	-.030	.051	.081	.135	.171	.181	.238		.258	.227	.209	.224	.200	.187	.144	.134	.126	.160	.146	.147	.139	.068	.067	.080	.059	.103	.056	.102	.132
7	0.36	5.08	-.028	.057	.085	.157	.206	.204	.254	.272		.208	.182	.198	.193	.191	.152	.172	.171	.200	.149	.171	.157	.071	.086	.066	.130	.146	.063	.098	.142
8	0.05	5.36	-.013	.054	.092	.169	.198	.206	.253	.280	.232		.228	.236	.218	.211	.181	.222	.230	.269	.201	.241	.187	.098	.129	.125	.156	.178	.085	.133	.166
9	-0.20	5.79	.002	.040	.087	.178	.206	.231	.279	.307	.280	.306		.304	.291	.265	.245	.307	.311	.322	.254	.276	.201	.098	.146	.150	.180	.222	.136	.145	.166
10	-0.15	6.70	-.010	.057	.115	.208	.240	.250	.312	.334	.303	.352	.376		.351	.321	.296	.359	.360	.345	.284	.262	.222	.156	.178	.158	.190	.223	.099	.096	.131
11	-0.27	7.74	.005	.069	.133	.235	.273	.282	.332	.349	.336	.385	.405	.376		.346	.325	.381	.393	.383	.310	.262	.250	.201	.191	.159	.152	.237	.114	.097	.135
12	-0.48	8.80	-.021	.027	.093	.188	.242	.259	.304	.342	.351	.392	.416	.393	.365		.355	.406	.419	.410	.326	.269	.265	.223	.201	.187	.190	.226	.108	.082	.106
13	-0.54	9.04	-.025	.006	.076	.160	.211	.239	.291	.330	.340	.384	.406	.375	.338	.330		.416	.434	.403	.348	.282	.280	.227	.216	.187	.197	.235	.127	.091	.108
14	-1.19	8.18	-.050	-.044	.036	.098	.147	.179	.238	.282	.279	.314	.346	.322	.295	.269	.353		.409	.382	.308	.231	.252	.215	.202	.162	.163	.228	.146	.114	.128
15	-2.33	6.19	-.070	-.113	-.026	.033	.079	.098	.168	.217	.207	.230	.251	.245	.229	.230	.269	.313		.400	.272	.204	.208	.150	.158	.124	.135	.168	.093	.065	.133
16	-3.75	4.48	-.016	-.038	.035	.095	.152	.139	.205	.247	.234	.223	.251	.236	.238	.237	.265	.267	.358		.363	.223	.187	.148	.165	.155	.117	.125	.044	.014	.088
17	-5.77	3.71	.013	.071	.124	.180	.182	.182	.208	.235	.211	.213	.206	.189	.165	.161	.207	.242	.191	.207		.340	.208	.112	.140	.123	.132	.128	.088	.015	.056
18	-8.13	3.16	.029	.107	.125	.141	.122	.118	.127	.138	.158	.150	.147	.125	.087	.060	.076	.124	.123	-.019	.056		.315	.261	.254	.195	.133	-.023	-.090	-.107	-.063
19	-10.61	3.26	-.039	.071	.095	.097	.083	.085	.095	.064	.104	.097	.116	.078	.054	.019	.024	.088	.109	.053	-.095	.193		.369	.362	.272	.148	.005	-.054	-.091	-.075
20	-13.15	3.52	.064	.076	.085	.127	.122	.099	.065	.048	.052	.049	.080	.083	.064	.016	-.004	.029	.085	.058	-.021	-.050	.039		.241	.201	.081	.044	-.069	-.097	-.079
21	-15.20	3.44	.066	.071	.033	.015	.049	.066	.042	.029	.002	.009	-.008	-.025	-.016	-.038	-.000	.038	.063	.105	.123	-.120	-.242	-.022		.147	.170	.120	.047	.008	-.046
22	-16.78	3.38	.122	.099	-.026	-.047	-.018	.013	.007	-.008	-.033	.007	-.025	-.032	-.042	-.028	.006	.018	.032	.102	.150	-.085	-.237	-.287	-.116		.165	.185	.154	.138	.122
23	-17.84	3.45	.105	.064	.028	.003	.049	.040	.046	.060	.006	.000	-.034	-.029	-.043	-.020	-.008	-.001	.026	.015	.155	-.097	-.198	-.234	-.252	-.059		.274	.280	.229	.189
24	-18.76	3.65	.127	.040	.001	-.035	.030	.016	.012	.021	.005	-.026	-.045	-.048	-.056	-.054	-.060	-.022	-.018	-.014	.059	-.099	-.179	-.174	-.248	-.157	.078		.243	.197	.101
25	-19.64	3.85	.063	.061	.046	.037	.051	-.001	-.009	-.002	.020	.001	-.021	-.035	-.051	-.060	-.045	.007	.015	.036	.074	.034	.054	.067	-.031	-.169	-.120	.015	.125		.067
26	-20.13	4.20	-.002	.047	.066	.046	.018	-.030	-.044	-.052	-.056	-.066	-.060	-.044	-.042	-.056	-.035	-.034	-.001	.045	.091	.145	.128	.138	.095	-.077	-.126	-.157	-.036		.141
27	-21.07	4.44	-.014	.077	.109	.092	.068	.071	.071	.071	.069	.068	.084	.064	.060	.022	.035	.084	.115	.085	.089	.144	.142	.131	.163	.053	-.060	-.171	-.240	-.060	

TABLE II.9 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

SEPTEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.31	0.54	0.45	0.63	0.69	0.55	0.32	0.51	0.39	0.40	0.09	-0.37	-0.91	-1.51	-2.10	-1.79	-1.48	-0.69	-0.43	-0.55	-0.48	-0.12	-0.18	-0.32	-0.58	-0.84	-1.02	-1.13
			SD	2.82	4.68	4.46	4.21	4.29	4.62	5.03	5.38	5.96	6.78	7.92	8.95	10.03	10.35	9.57	7.48	5.15	3.60	3.05	2.64	2.47	2.65	2.67	2.60	2.71	2.59	2.83	3.19
SFC	-1.83	2.98	.275	.422	.377	.290	.210	.168	.080	.035	-.017	-.069	-.110	-.121	-.124	-.101	-.119	-.125	-.116	-.102	-.051	-.064	-.033	.009	-.017	.004	.003	.042	.023	.034
1	-2.58	5.46	.086	.266	.236	.172	.135	.122	.073	.040	.021	.006	-.032	-.030	.004	.031	.014	.017	.020	-.011	-.011	-.045	-.062	-.072	-.081	-.070	-.090	-.023	-.047	-.050
2	-1.41	5.57	.039	.228	.223	.183	.156	.155	.124	.108	.094	.102	.074	.084	.108	.127	.108	.111	.112	.046	.013	-.010	-.058	-.062	-.063	-.076	-.052	-.000	-.027	-.035
3	-0.47	5.48	.032	.182	.200	.202	.191	.193	.167	.175	.182	.187	.165	.180	.193	.198	.182	.175	.181	.087	.054	.037	-.021	-.031	-.056	-.030	-.017	.010	.002	-.000
4	0.11	5.45	.050	.198	.234	.243	.256	.236	.201	.208	.211	.209	.179	.193	.198	.199	.187	.173	.189	.108	.062	.068	.022	.003	-.022	-.010	-.014	.020	.018	-.008
5	0.35	5.54	.043	.215	.268	.272	.282	.290	.262	.253	.236	.209	.172	.173	.179	.176	.164	.168	.190	.137	.069	.088	.067	.038	.031	.049	.056	.088	.072	.029
6	0.70	5.51	.051	.241	.294	.293	.308	.331	.288	.302	.283	.238	.191	.187	.182	.180	.156	.175	.218	.147	.073	.064	.057	.058	.063	.081	.079	.108	.081	.030
7	1.23	5.86	.045	.231	.294	.301	.331	.376	.361	.377	.360	.325	.262	.256	.235	.221	.188	.196	.240	.154	.089	.100	.098	.108	.098	.119	.143	.134	.102	.054
8	1.91	6.37	.078	.247	.294	.329	.368	.428	.410	.447	.438	.367	.319	.300	.263	.248	.235	.232	.264	.192	.114	.138	.133	.136	.098	.126	.148	.137	.107	.051
9	2.94	7.22	.080	.220	.260	.317	.373	.436	.443	.477	.479	.472	.401	.364	.306	.284	.269	.251	.287	.221	.160	.200	.188	.171	.123	.141	.149	.123	.093	.034
10	3.74	8.16	.054	.177	.211	.277	.332	.394	.422	.461	.469	.483	.433	.384	.338	.320	.305	.271	.306	.233	.196	.221	.214	.193	.140	.158	.141	.102	.083	.029
11	4.62	9.41	.056	.140	.174	.229	.285	.352	.396	.425	.425	.450	.428	.378	.320	.307	.302	.276	.306	.226	.202	.219	.208	.186	.130	.131	.127	.078	.069	.042
12	5.52	10.14	.030	.063	.097	.149	.201	.272	.333	.359	.364	.412	.413	.371	.312	.305	.267	.278	.295	.223	.192	.213	.219	.176	.115	.106	.113	.068	.072	.045
13	5.60	10.56	.033	.070	.105	.145	.157	.272	.319	.363	.369	.408	.417	.374	.316	.297	.318	.297	.304	.227	.178	.199	.159	.174	.123	.115	.125	.101	.100	.066
14	4.38	9.93	.063	.103	.140	.162	.208	.279	.305	.346	.338	.361	.361	.322	.256	.214	.240	.259	.270	.190	.116	.140	.167	.172	.119	.095	.139	.118	.125	.098
15	2.11	8.32	.109	.153	.207	.225	.262	.310	.328	.339	.309	.320	.301	.259	.192	.146	.135	.151	.234	.170	.086	.105	.138	.170	.132	.105	.147	.115	.127	.086
16	-0.25	6.44	.131	.214	.262	.265	.289	.310	.315	.316	.290	.285	.264	.228	.176	.141	.132	.116	.209	.218	.098	.109	.151	.194	.157	.112	.143	.144	.140	.100
17	-2.06	5.40	.200	.271	.276	.277	.311	.304	.321	.312	.235	.202	.180	.147	.111	.071	.084	.079	.098	.124	.179	.127	.141	.137	.114	.095	.122	.075	.062	.048
18	-3.99	4.57	.149	.197	.218	.212	.201	.163	.186	.177	.136	.138	.122	.096	.069	.047	.072	.075	.092	-.009	.139	.270	.158	.150	.109	.095	.100	.059	.085	.087
19	-6.12	4.07	.097	.109	.134	.124	.134	.126	.146	.149	.125	.116	.110	.089	.071	.065	.088	.087	.085	.103	-.001	.137	.324	.216	.096	.108	.064	.115	.125	.057
20	-8.21	4.06	.004	.065	.123	.113	.104	.104	.098	.096	.106	.080	.056	.071	.055	.074	.095	.100	.091	.106	.078	-.023	.120	.254	.070	.051	.047	.015	-.033	-.074
21	-9.86	3.63	.106	.131	.145	.138	.116	.130	.160	.134	.119	.102	.092	.067	.049	.074	.086	.075	.070	.049	.125	.026	-.155	.033	.218	.123	.079	.019	.014	.013
22	-11.15	3.55	.063	.060	.032	.009	.005	.025	.051	.018	.004	.004	.011	.011	.004	-.002	-.008	-.034	-.050	-.020	.011	-.020	-.083	-.157	-.006	.119	.045	-.010	-.049	-.097
23	-12.01	3.72	.047	.095	.106	.089	.077	.092	.073	.049	.054	.027	.044	.040	.017	.020	.016	.021	.044	.009	.090	.074	.040	-.054	-.160	.008	.142	.112	.104	.023
24	-12.56	3.94	-.039	-.025	-.005	-.002	-.004	.017	.010	.030	.037	.009	.048	.063	.065	.072	.108	.121	.129	.105	.146	.154	.145	.103	.014	-.038	.066	.255	.236	.122
25	-13.23	4.26	-.061	-.048	-.042	-.008	-.018	-.012	.029	.020	.026	.023	.037	.016	.030	.046	.081	.070	.092	.122	.151	.157	.196	.110	.136	-.010	-.044	.032	.168	.128
26	-13.65	4.64	-.010	.004	-.013	.022	.026	.034	.043	.036	.023	.041	.043	.025	.028	.031	.022	.013	.022	.039	.055	.140	.107	.068	.048	.031	-.040	-.069	.031	.123
27	-13.83	5.17	.068	.107	.106	.144	.141	.114	.064	.071	.059	.079	.065	.060	.036	.054	.016	.012	-.010	.017	-.010	.081	.045	.056	.020	.034	.027	-.058	-.113	-.094

TABLE II. 10 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

OCTOBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY.
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-1.59	-1.68	-0.82	-0.45	-0.32	-0.41	-0.30	-0.51	-0.63	-0.72	-0.72	-1.07	-1.26	-1.83	-2.07	-1.87	-1.50	-0.88	-0.93	-0.63	-0.19	-0.30	-0.59	-0.48	-0.35	-0.48	-0.74	-1.02
			SD	3.15	5.11	4.94	4.98	5.25	5.93	6.61	7.46	8.24	9.34	11.22	13.01	13.73	12.25	9.85	7.66	5.96	4.42	3.57	3.39	3.10	2.77	2.59	2.54	2.96	3.07	2.95	3.20
SFC	-0.98	3.39		.060	.371	.340	.279	.224	.188	.134	.070	.026	.005	-.018	-.011	-.005	-.001	-.019	-.020	-.056	-.064	-.093	-.037	.015	.078	.043	.053	.055	.049	.054	.036
1	-1.46	5.81		-.038	.247	.251	.206	.141	.093	.070	-.012	-.025	-.054	-.078	-.052	-.008	.017	.003	.007	-.036	-.047	-.068	-.022	-.015	.063	-.004	.001	-.052	-.068	-.096	-.105
2	0.89	6.20		.004	.244	.290	.239	.151	.151	.123	.045	.045	.016	-.015	.002	.038	.054	.068	.085	.045	.009	-.024	-.020	-.046	.043	.004	-.018	-.074	-.100	-.117	-.124
3	2.68	6.50		-.010	.237	.289	.245	.163	.140	.118	.060	.042	.017	-.020	-.011	.029	.029	.045	.048	.022	-.017	-.063	-.039	-.059	-.049	-.107	-.110	-.125	-.159	-.173	-.202
4	4.30	6.71		-.003	.231	.278	.234	.164	.164	.161	.095	.058	.027	-.005	-.004	.029	.021	.013	.010	-.003	-.032	-.077	-.046	-.107	-.079	-.165	-.164	-.181	-.214	-.216	-.261
5	6.05	7.07		.047	.300	.334	.301	.274	.234	.221	.151	.116	.092	.060	.061	.087	.072	.054	.046	.023	.004	-.062	-.032	-.096	-.070	-.136	-.138	-.164	-.209	-.180	-.216
6	7.85	7.73		.043	.282	.307	.283	.249	.219	.200	.142	.106	.076	.035	.028	.050	.041	.016	.014	.008	-.021	-.084	-.049	-.097	-.065	-.147	-.120	-.159	-.212	-.196	-.215
7	9.81	8.82		.054	.263	.272	.267	.225	.198	.198	.149	.114	.096	.055	.039	.062	.055	.031	.018	.016	-.015	-.074	-.043	-.088	-.076	-.154	-.121	-.144	-.196	-.196	-.218
8	12.06	9.84		.054	.239	.244	.239	.201	.177	.176	.148	.111	.099	.055	.029	.051	.036	.019	.014	.023	-.010	-.084	-.048	-.102	-.077	-.133	-.105	-.140	-.205	-.201	-.226
9	14.23	11.29		.033	.200	.201	.192	.163	.135	.122	.095	.067	.061	.015	-.015	.012	.007	.000	.009	.029	-.008	-.078	-.059	-.114	-.069	-.143	-.109	-.137	-.190	-.187	-.210
10	16.28	12.70		.055	.202	.204	.187	.167	.147	.135	.113	.083	.084	.042	.003	.024	.022	.021	.026	.042	.038	-.043	-.039	-.095	-.088	-.121	-.075	-.091	-.132	-.141	-.165
11	18.29	13.79		.033	.137	.155	.133	.120	.106	.087	.074	.048	.055	.026	-.010	.010	.012	.008	.020	.036	.045	-.059	-.028	-.081	-.091	-.107	-.058	-.075	-.107	-.136	-.146
12	19.61	13.86		.051	.134	.142	.108	.094	.082	.074	.071	.035	.041	.019	-.014	-.004	.011	.010	.006	.016	.021	-.085	-.028	-.095	-.108	-.116	-.065	-.064	-.100	-.141	-.162
13	19.95	13.33		.096	.155	.148	.098	.082	.073	.070	.075	.041	.042	.028	-.003	-.000	.004	.026	.000	.002	-.012	-.093	-.046	-.095	-.118	-.142	-.084	-.071	-.103	-.138	-.159
14	17.89	12.39		.130	.190	.177	.123	.100	.100	.092	.056	.064	.067	.054	.026	.026	-.005	.002	.011	.013	-.010	-.108	-.074	-.130	-.128	-.151	-.054	-.078	-.100	-.120	-.144
15	14.93	10.39		.160	.214	.211	.182	.161	.144	.144	.147	.112	.107	.088	.071	.079	.074	.070	.049	.109	.074	-.018	-.020	-.100	-.101	-.115	-.081	-.057	-.073	-.104	-.126
16	10.54	8.27		.206	.279	.281	.231	.194	.172	.164	.163	.114	.084	.071	.059	.069	.060	.076	.022	.052	.088	-.007	-.010	-.081	-.110	-.128	-.077	-.044	-.061	-.098	-.152
17	6.09	6.65		.186	.283	.293	.231	.212	.191	.177	.158	.121	.106	.077	.084	.057	.078	.100	.060	.063	.075	.086	.088	-.028	-.109	-.127	-.065	-.065	-.089	-.081	-.117
18	2.45	5.45		.120	.208	.208	.170	.164	.144	.160	.146	.116	.114	.116	.130	.139	.095	.102	.087	.095	.079	.113	.227	.018	-.063	-.058	-.039	-.027	-.060	-.007	-.056
19	-0.35	4.85		.186	.194	.231	.242	.247	.224	.224	.223	.222	.219	.223	.246	.265	.203	.180	.187	.188	.222	.061	.210	.253	.103	-.027	-.008	.018	.028	.028	.013
20	-1.76	4.58		.146	.156	.177	.200	.153	.156	.204	.186	.180	.175	.163	.187	.187	.188	.171	.151	.179	.218	.146	.132	.174	.221	.087	-.017	.011	.034	.027	-.045
21	-2.43	4.22		.126	.101	.123	.148	.157	.164	.177	.160	.178	.197	.197	.209	.204	.187	.151	.138	.195	.181	.179	.201	.032	.158	.174	.043	-.005	-.064	-.089	-.093
22	-2.93	4.25		.059	.127	.146	.154	.158	.149	.151	.158	.150	.140	.161	.182	.168	.163	.140	.130	.158	.158	.136	.149	.063	.023	.015	.151	.082	-.046	-.075	-.080
23	-3.46	4.43		-.015	.011	.072	.107	.117	.095	.120	.145	.126	.120	.153	.179	.187	.175	.174	.108	.166	.162	.123	.133	.122	-.019	-.136	-.015	.110	.036	-.042	-.116
24	-3.51	4.71		.087	.104	.145	.149	.162	.126	.139	.114	.121	.114	.124	.134	.158	.162	.125	.076	.112	.113	.130	.120	.081	.022	-.006	-.084	.006	.113	.048	-.054
25	-3.18	5.13		.070	.080	.063	.091	.082	.096	.091	.054	.051	.048	.058	.052	.065	.079	.026	.045	.039	.034	.107	.053	.035	.083	.075	-.006	-.057	-.003	.166	.095
26	-2.28	5.79		.100	.084	.059	.047	.027	.015	.017	.010	.041	.031	.050	.046	.043	.032	-.004	.001	.033	-.047	-.041	-.008	-.067	-.035	.065	.004	-.002	-.064	.090	.218
27	-1.53	6.32		.137	.098	.084	.072	.065	.040	.048	.069	.079	.068	.062	.056	.056	.033	.031	.046	.059	.038	-.035	.004	-.025	.020	.039	.069	.075	.046	-.065	.089

TABLE II.11 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

NOVEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km → / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MEAN	-1.22	-0.59	-0.16	-0.11	-0.13	0.06	0.16	0.23	0.12	0.31	0.12	-0.39	-0.89	-0.72	-0.82	-0.53	-0.47	-0.25	-0.23	-0.11	-0.27	-0.26	-0.23	0.10	0.12	0.02	0.02	0.18
			SD	3.21	5.74	5.59	5.65	6.08	6.75	7.74	8.86	10.11	11.48	13.05	14.74	15.18	13.98	11.55	9.09	7.47	6.14	4.70	4.10	3.47	3.22	3.40	3.39	3.47	3.92	4.07	4.25
SFC	0.02	3.13		-.251	.207	.138	.058	.038	-.034	-.047	-.092	-.127	-.125	-.114	-.128	-.100	-.075	-.042	-.044	-.089	-.093	-.051	-.106	-.092	-.090	-.032	-.081	-.017	-.039	-.061	-.008
1	-0.38	6.82		-.336	.131	.105	.050	.010	-.051	-.047	-.092	-.116	-.109	-.100	-.125	-.075	-.031	.003	.021	-.001	-.004	.000	.019	.027	.019	.032	-.002	.026	.036	.026	.070
2	2.45	7.21		-.267	.151	.173	.098	.068	-.001	-.002	-.050	-.060	-.059	-.064	-.090	-.038	-.020	.028	.054	.053	.066	.046	.035	.012	.010	.010	-.032	-.023	-.021	-.021	.014
3	5.03	7.67		-.168	.175	.236	.173	.123	.067	.054	.017	.015	.020	.025	-.011	.028	.040	.082	.089	.092	.079	.101	.092	.090	.064	.019	-.025	-.013	-.039	-.035	-.008
4	7.23	7.92		-.118	.199	.294	.235	.206	.157	.138	.111	.101	.106	.095	.060	.110	.123	.151	.130	.129	.099	.132	.106	.112	.076	.030	-.010	-.012	-.029	-.021	.015
5	9.78	8.64		-.050	.278	.378	.315	.303	.266	.251	.230	.211	.216	.200	.167	.210	.206	.216	.196	.196	.143	.163	.136	.129	.067	.024	.002	-.018	-.026	-.026	.019
6	12.46	9.67		.038	.329	.411	.362	.364	.332	.317	.300	.286	.290	.259	.226	.263	.258	.262	.251	.251	.209	.190	.185	.129	.049	-.028	-.038	-.073	-.078	-.077	-.037
7	15.15	10.36		.112	.355	.438	.397	.359	.360	.349	.337	.324	.324	.298	.263	.300	.297	.292	.270	.277	.250	.209	.208	.142	.057	-.027	-.033	-.077	-.082	-.078	-.037
8	18.05	11.39		.170	.376	.457	.417	.428	.385	.376	.374	.361	.369	.346	.312	.336	.329	.334	.304	.298	.260	.232	.234	.131	.038	-.040	-.050	-.121	-.124	-.116	-.072
9	21.05	12.57		.191	.384	.483	.454	.461	.412	.410	.409	.408	.416	.393	.352	.379	.365	.347	.325	.338	.308	.278	.273	.162	.041	-.025	-.050	-.131	-.143	-.139	-.101
10	23.85	14.14		.215	.389	.491	.484	.493	.444	.447	.445	.446	.459	.443	.403	.428	.408	.381	.365	.367	.364	.326	.329	.203	.063	-.008	-.038	-.135	-.137	-.132	-.086
11	26.60	14.37		.220	.364	.468	.467	.481	.435	.451	.454	.445	.476	.453	.428	.450	.420	.394	.368	.366	.370	.331	.335	.193	.035	-.032	-.059	-.162	-.161	-.149	-.106
12	28.53	14.98		.239	.350	.449	.450	.463	.415	.433	.442	.437	.466	.448	.424	.440	.425	.399	.368	.358	.364	.352	.332	.172	.044	-.021	-.047	-.154	-.143	-.131	-.091
13	28.78	14.20		.269	.351	.434	.438	.455	.418	.435	.443	.441	.450	.434	.407	.411	.408	.409	.374	.366	.368	.360	.339	.207	.097	.003	-.012	-.110	-.110	-.094	-.065
14	26.51	12.71		.254	.347	.415	.411	.445	.410	.426	.441	.430	.430	.419	.357	.407	.375	.392	.379	.342	.342	.333	.308	.179	.085	-.010	-.032	-.116	-.131	-.110	-.071
15	22.68	10.45		.231	.327	.418	.419	.429	.405	.414	.435	.429	.420	.402	.375	.398	.393	.373	.387	.405	.364	.354	.314	.181	.079	-.019	-.043	-.116	-.133	-.113	-.071
16	18.16	8.81		.259	.327	.397	.387	.392	.364	.372	.390	.387	.389	.386	.372	.383	.387	.377	.333	.347	.342	.318	.272	.132	.023	-.066	-.105	-.170	-.188	-.172	-.141
17	13.50	7.58		.271	.298	.354	.339	.341	.315	.326	.333	.325	.336	.341	.330	.335	.315	.322	.285	.228	.240	.279	.217	.086	-.027	-.109	-.155	-.225	-.225	-.203	-.180
18	8.78	6.59		.224	.266	.336	.320	.319	.294	.296	.308	.301	.323	.318	.308	.321	.302	.308	.285	.219	.187	.226	.216	.064	-.038	-.150	-.208	-.276	-.281	-.264	-.242
19	5.64	5.70		.221	.254	.317	.319	.296	.282	.305	.294	.291	.313	.316	.321	.321	.319	.314	.274	.237	.233	.176	.225	.171	.022	-.067	-.175	-.273	-.292	-.283	-.279
20	3.55	5.11		.188	.164	.232	.245	.208	.188	.210	.195	.212	.225	.235	.241	.235	.244	.245	.223	.196	.210	.179	.113	.167	.125	.006	-.062	-.157	-.237	-.197	-.187
21	2.71	5.36		.120	.150	.213	.222	.227	.206	.199	.191	.183	.181	.200	.197	.197	.197	.205	.208	.195	.257	.263	.180	.146	.193	.160	.056	-.026	-.127	-.102	-.101
22	2.76	5.87		.047	.141	.165	.157	.173	.166	.167	.175	.169	.162	.194	.181	.180	.179	.198	.204	.208	.212	.247	.179	.170	.080	.108	.173	.081	-.015	-.012	.004
23	3.57	6.46		.029	.107	.141	.143	.140	.118	.108	.092	.090	.095	.108	.098	.116	.113	.145	.115	.144	.142	.172	.145	.151	.133	.078	.159	.146	.044	.055	.064
24	4.70	7.15		.033	.059	.079	.078	.073	.058	.045	.034	.012	.015	.021	.018	.029	.025	.039	.040	.079	.082	.061	.074	.103	.127	.062	.076	.145	.163	.133	.109
25	6.48	8.03		-.072	.024	.016	-.018	-.004	-.028	-.043	-.053	-.088	-.084	-.077	-.092	-.077	-.069	-.053	-.033	.015	.013	-.023	-.013	.026	.069	.106	.148	.144	.212	.209	.180
26	8.15	8.37		-.058	.029	.001	-.048	-.048	-.080	-.105	-.106	-.124	-.125	-.113	-.139	-.128	-.128	-.103	-.083	-.027	-.016	-.026	-.053	.028	.122	.152	.205	.204	.212	.223	.234
27	9.93	9.15		.004	.010	-.021	-.034	-.035	-.049	-.052	-.050	-.048	-.060	-.037	-.066	-.067	-.051	-.023	-.022	-.013	.001	-.001	.002	.072	.159	.168	.240	.221	.214	.183	.196

TABLE II.12 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

DECEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
					-1.31	-0.14	0.65	0.74	1.33	2.15	2.31	2.80	3.36	3.88	4.34	4.38	4.86	5.25	4.87	4.31	3.91	3.34	2.62	1.79	1.17	1.15	0.73	0.81	1.21	1.29	1.39	1.80
					3.07	5.73	5.32	5.70	6.54	7.69	8.78	9.75	10.94	12.45	14.15	15.29	15.85	14.50	11.83	9.92	8.72	7.91	6.58	5.37	4.40	4.12	3.55	3.79	3.70	4.17	4.44	4.66
SFC	0.80	3.07	-.264	.223	.099	-.055	-.142	-.152	-.169	-.178	-.210	-.200	-.198	-.180	-.156	-.188	-.193	-.141	-.168	-.200	-.194	-.205	-.237	-.203	-.089	-.114	-.061	-.054	-.014	.076
1	1.38	7.10	-.335	.042	-.030	-.125	-.169	-.185	-.173	-.178	-.220	-.205	-.214	-.192	-.159	-.166	-.190	-.134	-.133	-.180	-.143	-.171	-.182	-.157	-.109	-.085	-.108	-.137	-.064	.016
2	4.85	7.62	-.220	.086	.074	-.003	-.012	-.046	-.050	-.059	-.102	-.095	-.112	-.094	-.079	-.054	-.048	-.013	-.027	-.072	-.014	-.051	-.101	-.061	-.060	-.050	-.014	-.034	-.016	.068
3	8.29	7.97	-.152	.118	.168	.115	.096	.073	.055	.048	.005	-.002	-.013	.001	.005	.012	.031	.040	.031	-.006	.056	.033	-.051	-.041	-.057	-.065	-.046	-.074	-.055	.043
4	11.84	8.52	-.073	.174	.238	.211	.196	.174	.147	.139	.098	.076	.066	.066	.066	.078	.097	.111	.096	.096	.149	.112	.021	.022	-.024	-.041	-.025	-.078	-.081	.011
5	14.75	9.43	-.012	.209	.274	.260	.238	.216	.196	.185	.152	.124	.098	.090	.080	.107	.128	.129	.103	.113	.149	.093	.017	.011	-.040	-.050	-.041	-.101	-.088	-.009
6	17.89	9.97	.040	.225	.300	.302	.300	.290	.259	.252	.221	.193	.163	.147	.132	.146	.182	.173	.154	.173	.193	.148	.086	.099	.041	-.018	-.008	-.067	-.041	.007
7	21.16	10.95	.080	.244	.335	.353	.353	.327	.306	.289	.269	.237	.207	.194	.180	.205	.225	.209	.180	.208	.220	.157	.121	.112	.045	-.015	-.005	-.063	-.068	-.028
8	24.62	12.32	.146	.297	.400	.421	.414	.388	.367	.361	.342	.297	.270	.254	.228	.252	.280	.261	.222	.242	.228	.184	.143	.145	.065	-.013	.008	-.038	-.072	-.041
9	28.14	14.09	.151	.302	.411	.446	.434	.404	.388	.390	.382	.349	.315	.295	.262	.280	.327	.307	.262	.261	.262	.207	.166	.172	.093	.024	.038	-.015	-.059	-.028
10	31.38	15.54	.156	.270	.374	.426	.416	.351	.381	.378	.385	.360	.340	.316	.287	.303	.352	.314	.269	.278	.282	.244	.199	.196	.122	.045	.059	-.012	-.067	-.050
11	33.79	15.66	.205	.283	.393	.447	.447	.417	.402	.387	.384	.358	.355	.350	.330	.350	.387	.348	.308	.330	.327	.293	.254	.255	.154	.047	.073	-.012	-.074	-.064
12	35.73	15.48	.207	.282	.375	.422	.421	.384	.364	.343	.338	.316	.320	.317	.311	.351	.369	.327	.300	.337	.345	.289	.272	.261	.167	.056	.076	-.006	-.060	-.052
13	36.34	14.31	.259	.326	.407	.447	.450	.419	.395	.372	.362	.326	.327	.323	.305	.352	.388	.340	.304	.341	.348	.295	.261	.255	.158	.052	.087	.015	-.048	-.044
14	34.98	12.93	.234	.325	.407	.439	.457	.438	.428	.408	.385	.362	.368	.360	.357	.371	.411	.390	.356	.376	.366	.318	.278	.248	.142	.035	.076	.009	-.068	-.077
15	31.73	11.61	.170	.280	.354	.387	.410	.388	.375	.349	.323	.309	.311	.304	.300	.325	.338	.330	.331	.337	.335	.254	.207	.206	.127	.018	.048	-.021	-.088	-.083
16	27.12	9.94	.166	.255	.344	.366	.384	.367	.359	.320	.298	.290	.286	.268	.272	.318	.335	.273	.286	.350	.321	.281	.225	.218	.133	.029	.067	.007	-.044	-.050
17	22.37	8.67	.117	.196	.273	.304	.335	.318	.285	.250	.235	.217	.217	.200	.205	.242	.255	.191	.184	.284	.268	.207	.176	.114	.073	-.004	-.002	-.043	-.072	-.069
18	17.22	7.66	.145	.225	.293	.324	.332	.335	.321	.269	.250	.234	.237	.217	.236	.255	.261	.218	.227	.255	.260	.229	.187	.138	.057	.028	.048	.040	-.010	-.024
19	12.72	7.29	.156	.215	.269	.312	.324	.316	.306	.258	.253	.251	.262	.262	.263	.298	.296	.259	.261	.308	.291	.306	.283	.228	.156	.056	.047	.002	-.006	-.044
20	9.60	7.15	.157	.209	.258	.285	.325	.334	.315	.279	.273	.284	.296	.275	.268	.277	.281	.244	.240	.265	.256	.243	.250	.267	.176	.065	.033	-.008	.027	.028
21	8.40	6.85	.231	.191	.268	.269	.343	.358	.356	.352	.341	.332	.343	.337	.315	.347	.348	.293	.314	.337	.341	.300	.326	.393	.317	.212	.185	.090	.092	.052
22	7.96	6.42	.190	.151	.230	.286	.313	.308	.314	.322	.257	.296	.324	.333	.329	.310	.347	.313	.318	.347	.331	.404	.271	.329	.323	.231	.196	.144	.126	.056
23	8.66	7.16	.131	.145	.216	.255	.259	.270	.297	.301	.275	.259	.275	.285	.289	.275	.282	.315	.327	.279	.266	.337	.343	.291	.202	.223	.184	.103	.115	.054
24	10.42	8.20	.144	.162	.225	.247	.247	.247	.280	.305	.292	.290	.294	.297	.308	.309	.335	.333	.333	.290	.264	.297	.229	.236	.204	.155	.220	.168	.076	.064
25	12.25	9.07	.091	.175	.192	.175	.182	.168	.185	.206	.193	.194	.191	.187	.205	.213	.224	.222	.212	.203	.192	.168	.148	.200	.158	.146	.151	.184	.162	.142
26	13.78	9.95	.027	.077	.105	.093	.121	.132	.126	.132	.133	.135	.136	.154	.149	.143	.172	.174	.164	.123	.104	.105	.145	.203	.151	.129	.054	.011	.067	.105
27	14.83	10.47	.064	.060	.079	.067	.107	.058	.100	.110	.110	.129	.142	.157	.163	.156	.174	.148	.159	.155	.107	.123	.136	.172	.161	.143	.056	-.009	-.008	.058

TABLE II.13 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

WINTER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1444

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.81	0.90	1.06	1.19	1.59	2.03	2.49	2.98	3.32	3.62	3.87	3.82	4.13	4.24	3.73	3.35	3.01	2.28	1.72	1.24	0.84	0.50	0.31	0.61	0.89	0.83	0.97	1.45
			SD	3.59	6.34	6.24	6.91	7.58	8.54	9.32	10.20	11.23	12.39	13.62	14.77	14.77	13.94	11.24	9.74	8.44	7.49	6.19	4.00	4.22	4.41	4.10	4.25	4.07	4.28	4.70	5.09
SFC	0.78	3.30		-.254	.208	.080	-.038	-.110	-.141	-.172	-.186	-.212	-.196	-.202	-.188	-.167	-.178	-.188	-.187	-.167	-.175	-.180	-.200	-.185	-.135	-.105	-.053	-.041	-.059	-.051	-.012
1	2.77	7.05		-.397	.006	-.038	-.117	-.177	-.195	-.204	-.203	-.235	-.214	-.217	-.214	-.195	-.183	-.199	-.192	-.172	-.185	-.166	-.180	-.173	-.109	-.097	-.047	-.031	-.094	-.085	-.049
2	6.72	7.44		-.290	.040	.038	-.041	-.086	-.105	-.119	-.123	-.144	-.128	-.135	-.143	-.132	-.128	-.139	-.132	-.128	-.142	-.103	-.094	-.104	-.050	-.048	.009	.041	-.002	-.020	.018
3	10.30	7.96		-.230	.081	.119	.050	-.001	-.019	-.038	-.035	-.059	-.050	-.064	-.079	-.071	-.072	-.073	-.080	-.084	-.093	-.060	-.038	-.068	-.023	-.036	.018	.045	.004	-.014	.037
4	13.70	8.64		-.174	.117	.166	.109	.064	.040	.015	.014	-.005	-.008	-.018	-.032	-.033	-.031	-.022	-.022	-.026	-.039	-.014	-.009	-.020	.028	-.004	.052	.074	.024	.013	.065
5	17.01	9.73		-.120	.127	.189	.148	.114	.090	.068	.071	.051	.047	.039	.021	.010	.013	.029	.023	.001	-.005	.037	.028	.005	.041	.016	.072	.082	.033	.028	.071
6	20.48	10.53		-.043	.177	.257	.222	.199	.184	.160	.154	.140	.132	.121	.099	.087	.077	.095	.089	.060	.050	.087	.088	.054	.079	.040	.079	.082	.029	.037	.069
7	23.93	11.72		.015	.214	.302	.284	.263	.245	.231	.219	.210	.199	.185	.169	.151	.151	.159	.140	.097	.102	.130	.111	.080	.095	.055	.080	.087	.032	.032	.057
8	27.41	13.04		.057	.244	.342	.335	.315	.293	.274	.270	.263	.253	.241	.221	.199	.194	.212	.181	.134	.146	.162	.146	.115	.108	.076	.090	.093	.046	.044	.067
9	30.97	14.73		.081	.245	.347	.356	.330	.311	.294	.296	.300	.294	.277	.255	.232	.220	.240	.209	.165	.163	.182	.171	.134	.141	.112	.112	.112	.062	.059	.078
10	34.42	16.12		.096	.217	.322	.344	.319	.307	.298	.294	.307	.312	.302	.283	.263	.245	.269	.232	.183	.187	.204	.206	.173	.151	.127	.125	.128	.071	.075	.091
11	37.69	17.05		.124	.225	.332	.351	.336	.321	.314	.299	.307	.313	.316	.309	.288	.277	.292	.258	.214	.222	.228	.245	.213	.165	.138	.120	.127	.068	.062	.083
12	40.14	16.63		.129	.218	.328	.349	.336	.315	.309	.290	.297	.300	.307	.303	.296	.298	.298	.268	.232	.242	.247	.252	.221	.171	.135	.122	.134	.060	.060	.081
13	40.43	15.05		.162	.249	.349	.383	.381	.361	.355	.341	.346	.335	.333	.323	.309	.328	.346	.302	.262	.270	.284	.273	.240	.186	.174	.147	.162	.106	.100	.107
14	38.47	13.43		.153	.256	.350	.371	.375	.355	.360	.351	.357	.352	.350	.334	.326	.316	.333	.335	.287	.290	.293	.277	.239	.194	.173	.157	.179	.117	.103	.109
15	34.42	11.80		.112	.224	.306	.321	.332	.316	.327	.317	.320	.317	.308	.289	.288	.289	.294	.292	.277	.272	.273	.252	.214	.175	.154	.145	.174	.115	.106	.112
16	29.46	10.16		.103	.205	.298	.308	.313	.299	.309	.296	.302	.299	.284	.267	.262	.284	.290	.244	.242	.272	.247	.240	.195	.182	.154	.133	.159	.115	.109	.104
17	24.03	9.02		.090	.165	.255	.260	.267	.254	.255	.244	.249	.240	.230	.214	.204	.219	.240	.186	.160	.217	.223	.204	.164	.149	.140	.135	.141	.109	.107	.110
18	17.97	7.99		.136	.196	.271	.286	.284	.271	.272	.253	.255	.247	.236	.216	.218	.225	.236	.202	.178	.190	.248	.231	.180	.170	.146	.137	.151	.122	.101	.105
19	12.63	7.60		.157	.206	.266	.280	.278	.256	.253	.222	.219	.208	.199	.191	.189	.196	.192	.178	.179	.199	.196	.262	.215	.167	.160	.110	.091	.063	.059	.049
20	8.43	7.40		.143	.156	.220	.208	.222	.208	.201	.182	.176	.171	.170	.159	.145	.137	.131	.129	.147	.139	.128	.180	.246	.195	.184	.138	.090	.058	.047	.042
21	6.18	7.39		.099	.071	.122	.091	.100	.087	.083	.082	.071	.059	.071	.067	.045	.052	.046	.056	.090	.101	.128	.123	.162	.270	.259	.224	.196	.112	.105	.079
22	4.88	7.91		.107	.071	.111	.093	.101	.081	.071	.057	.048	.025	.051	.056	.044	.034	.054	.058	.072	.099	.108	.158	.160	.152	.253	.199	.131	.125	.097	.053
23	4.43	8.53		.085	.089	.142	.134	.126	.110	.105	.098	.082	.068	.070	.081	.071	.072	.091	.106	.124	.121	.150	.206	.237	.183	.158	.226	.196	.129	.122	.077
24	4.73	9.52		.066	.078	.131	.131	.133	.119	.134	.137	.130	.122	.115	.131	.143	.125	.139	.156	.167	.164	.187	.213	.216	.196	.214	.179	.231	.188	.155	.134
25	5.59	10.39		-.006	.014	.056	.046	.049	.030	.015	.027	.014	.012	.017	.023	.025	.021	.060	.062	.070	.099	.126	.141	.136	.182	.249	.234	.181	.234	.226	.172
26	6.49	11.62		-.035	-.009	.010	-.004	.011	.005	-.014	-.007	-.012	-.010	-.008	-.001	-.006	-.007	.026	.019	.046	.046	.059	.091	.111	.183	.193	.222	.145	.174	.191	.190
27	6.91	12.75		.014	.023	.036	.030	.031	.021	.007	.015	.012	.033	.047	.053	.050	.029	.070	.060	.070	.073	.080	.098	.107	.167	.203	.201	.149	.127	.130	.170

TABLE II.14 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

SPRING

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1472

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.25	1.31	0.57	0.25	0.05	0.06	0.13	0.11	0.24	0.25	0.27	-0.03	-0.23	-0.67	-1.30	-1.08	-1.18	-0.85	-0.83	-0.54	-0.43	-0.52	-0.45	-0.47	-0.48	-0.62	-0.63	-0.67
			SD	3.42	5.50	5.57	6.16	6.77	7.05	7.82	8.73	9.52	11.12	12.65	14.43	15.01	13.39	11.75	9.70	8.23	6.99	5.57	4.53	3.98	3.50	3.49	3.35	3.41	3.34	3.27	3.48
SFC	-0.84	3.51	-.150	.151	.014	-.081	-.109	-.130	-.141	-.144	-.156	-.166	-.172	-.164	-.152	-.136	-.120	-.130	-.127	-.133	-.130	-.114	-.093	-.097	-.056	-.049	-.030	-.050	-.040	-.009	
1	1.25	6.72	-.235	.024	.006	-.049	-.056	-.059	-.057	-.067	-.080	-.107	-.119	-.103	-.069	-.042	-.015	-.023	-.031	-.020	-.015	-.022	-.008	-.033	-.024	-.040	-.039	-.026	.009	.032	
2	3.93	7.40	-.112	.102	.145	.108	.097	.092	.090	.081	.067	.034	.015	.025	.056	.073	.092	.058	.043	.038	.041	.033	.029	.009	.021	.026	.003	.027	.051	.064	
3	6.37	8.60	-.038	.150	.185	.160	.147	.136	.121	.112	.090	.059	.040	.050	.077	.090	.095	.058	.047	.034	.025	.032	.020	-.012	.008	.007	-.016	.017	.042	.066	
4	8.91	9.80	-.007	.152	.185	.172	.161	.148	.125	.109	.083	.050	.032	.047	.077	.081	.082	.042	.026	.020	.004	.008	.021	-.032	-.018	-.017	-.043	-.001	.029	.050	
5	11.66	11.06	.051	.209	.232	.219	.211	.197	.158	.155	.129	.099	.081	.088	.109	.131	.105	.078	.052	.042	.024	.028	.048	-.010	-.000	-.005	-.020	.010	.038	.057	
6	14.30	12.25	.104	.246	.284	.276	.264	.250	.216	.202	.177	.153	.129	.133	.154	.137	.134	.108	.085	.069	.064	.058	.087	.023	.041	.029	.006	.033	.055	.066	
7	17.05	13.50	.126	.262	.301	.297	.293	.279	.252	.227	.208	.184	.164	.166	.182	.167	.160	.128	.104	.083	.075	.058	.092	.029	.032	.032	.016	.030	.060	.062	
8	19.88	14.89	.127	.246	.296	.296	.294	.277	.252	.232	.210	.182	.169	.171	.188	.176	.165	.139	.104	.089	.086	.053	.098	.023	.031	.018	-.002	.011	.053	.052	
9	22.74	16.59	.150	.249	.306	.301	.302	.287	.260	.241	.221	.194	.178	.183	.198	.189	.177	.137	.104	.095	.099	.060	.104	.051	.049	.036	.009	.018	.051	.032	
10	25.83	18.16	.174	.252	.308	.311	.315	.298	.268	.249	.234	.212	.198	.199	.214	.209	.199	.156	.119	.109	.114	.075	.097	.047	.044	.026	-.004	.011	.045	.026	
11	29.24	19.29	.161	.235	.286	.288	.284	.266	.237	.214	.206	.191	.176	.178	.198	.192	.181	.133	.096	.085	.103	.066	.090	.034	.020	.008	-.006	-.002	.029	.016	
12	32.22	19.86	.160	.216	.269	.285	.289	.270	.244	.227	.219	.201	.196	.197	.216	.210	.196	.143	.097	.099	.117	.075	.090	.040	.015	.009	-.019	-.005	.031	.008	
13	33.53	18.79	.175	.222	.281	.304	.316	.299	.282	.264	.257	.250	.247	.251	.251	.248	.252	.195	.148	.143	.154	.107	.135	.083	.056	.031	.015	.025	.064	.030	
14	31.41	16.57	.182	.228	.289	.310	.321	.311	.301	.290	.277	.269	.263	.266	.273	.258	.261	.238	.188	.173	.190	.149	.149	.090	.051	.034	.042	.053	.090	.074	
15	27.18	14.17	.217	.256	.323	.347	.356	.349	.340	.330	.315	.308	.300	.306	.322	.314	.295	.280	.261	.229	.236	.197	.197	.121	.074	.055	.060	.089	.119	.100	
16	22.15	12.47	.187	.237	.330	.353	.355	.349	.344	.332	.319	.312	.306	.315	.334	.331	.328	.283	.260	.266	.255	.232	.225	.143	.095	.058	.051	.092	.127	.116	
17	16.74	11.27	.245	.303	.390	.411	.409	.404	.393	.380	.368	.360	.348	.349	.366	.359	.369	.332	.278	.270	.282	.264	.259	.172	.134	.088	.089	.131	.160	.150	
18	10.93	9.67	.251	.308	.370	.382	.383	.379	.372	.363	.344	.335	.324	.319	.321	.328	.321	.321	.265	.234	.260	.274	.233	.137	.112	.072	.067	.133	.150	.137	
19	5.47	8.70	.240	.311	.354	.360	.332	.336	.333	.335	.320	.315	.295	.297	.307	.303	.286	.281	.253	.227	.209	.254	.243	.153	.130	.058	.071	.100	.093	.103	
20	1.94	7.22	.194	.244	.292	.296	.288	.280	.285	.287	.265	.260	.250	.245	.259	.268	.250	.231	.218	.230	.222	.201	.219	.222	.108	.107	.069	.087	.069	.041	
21	-0.68	6.42	.084	.146	.158	.159	.167	.165	.166	.164	.153	.147	.144	.141	.148	.161	.150	.141	.127	.096	.125	.121	.043	.127	.090	.070	.034	-.001	.008	-.018	
22	-2.31	6.19	.121	.136	.136	.145	.154	.143	.142	.142	.132	.121	.099	.088	.088	.096	.083	.087	.095	.071	.059	.082	.064	.016	.068	.081	.053	.047	.029	-.020	
23	-3.39	6.01	.045	.063	.068	.075	.086	.067	.073	.073	.065	.054	.063	.053	.055	.060	.050	.041	.045	.033	.026	.049	.027	.055	-.008	.024	.081	.072	.072	.010	
24	-3.87	6.29	.028	.060	.045	.060	.069	.047	.060	.057	.042	.037	.039	.026	.030	.023	.040	.050	.059	.039	.038	.049	.057	.055	.019	-.019	.064	.124	.112	.050	
25	-3.73	7.07	.005	.028	.018	.021	.017	.008	.015	.007	-.006	-.002	.004	-.011	.008	.015	.037	.051	.073	.045	.060	.070	.088	.101	.091	.059	.010	.115	.131	.071	
26	-3.52	7.70	-.028	-.009	.028	.026	.024	.006	.011	.007	.006	.011	.018	.009	.022	.027	.049	.060	.087	.062	.069	.067	.070	.124	.063	.096	.056	.042	.088	.061	
27	-3.31	8.21	.020	-.004	.028	.047	.039	.022	.022	.020	.010	.003	.005	.004	.006	.020	.030	.070	.074	.056	.072	.093	.082	.095	.087	.056	.055	.017	.020	.025	

TABLE II.15 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28°29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

SUMMER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1472

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.09	2.07	1.37	1.17	1.10	0.80	0.37	0.14	-0.23	-0.52	-0.96	-1.44	-2.30	-3.48	-4.19	-3.83	-2.94	-2.07	-1.36	-0.95	-0.80	-0.51	-0.38	-0.27	-0.32	-0.52	-0.72	-0.98
			SD	2.23	3.45	3.46	3.49	3.65	3.91	4.24	4.54	4.98	5.76	6.85	7.93	8.93	9.33	8.25	6.25	4.72	3.77	3.13	2.73	2.61	2.69	3.10	3.15	2.93	2.85	2.94	3.14
SFC	-0.75	2.57		-.016	.272	.222	.142	.107	.103	.078	.023	-.023	-.045	-.055	-.064	-.079	-.099	-.109	-.118	-.108	-.084	-.035	-.010	.021	.017	-.007	-.048	-.076	-.089	-.079	-.083
1	0.62	4.59		-.028	.090	.070	.019	.031	.015	.002	-.012	-.046	-.045	-.044	-.036	-.033	-.042	-.050	-.068	-.086	-.088	-.056	-.103	-.129	-.126	-.117	-.086	-.084	-.070	-.071	-.071
2	1.20	4.57		.067	.170	.160	.142	.124	.097	.084	.060	.036	.038	.041	.035	.025	.013	-.004	-.030	-.058	-.040	-.017	-.090	-.128	-.131	-.122	-.086	-.060	-.044	-.044	-.051
3	1.48	4.56		.054	.128	.134	.138	.123	.094	.105	.078	.058	.061	.062	.066	.057	.044	.036	-.000	-.032	-.031	-.011	-.065	-.106	-.119	-.123	-.090	-.085	-.060	-.055	-.032
4	1.65	4.75		.019	.066	.075	.117	.119	.083	.092	.083	.072	.071	.076	.079	.073	.065	.056	.007	-.019	-.022	-.010	-.052	-.082	-.103	-.123	-.104	-.115	-.086	-.072	-.053
5	1.63	4.99		-.034	.020	.036	.077	.093	.071	.080	.082	.066	.059	.064	.069	.068	.057	.048	.000	.002	-.004	-.000	-.048	-.076	-.100	-.121	-.109	-.105	-.085	-.078	-.071
6	1.46	5.29		-.038	.024	.032	.065	.091	.090	.088	.086	.059	.053	.060	.070	.069	.057	.053	.013	.024	.019	.016	-.033	-.068	-.076	-.086	-.070	-.076	-.064	-.053	-.060
7	1.30	5.71		-.048	-.001	.017	.055	.093	.099	.109	.123	.092	.083	.081	.089	.092	.077	.077	.043	.053	.020	.037	-.018	-.063	-.054	-.063	-.044	-.048	-.045	-.038	-.044
8	1.11	6.21		-.049	-.009	.028	.063	.087	.101	.117	.148	.126	.110	.105	.112	.110	.104	.106	.081	.090	.047	.055	-.002	-.037	-.020	-.030	-.001	-.007	-.026	-.014	-.040
9	1.00	7.20		-.042	-.010	.029	.065	.084	.109	.126	.167	.155	.156	.145	.159	.152	.145	.151	.121	.118	.071	.070	.022	-.020	.007	.001	.019	.024	.004	.012	-.020
10	1.01	8.30		-.041	-.012	.025	.062	.091	.115	.139	.174	.164	.174	.165	.182	.171	.157	.171	.138	.122	.084	.077	.035	.002	.023	.010	.030	.043	.008	.015	.001
11	1.03	9.54		-.042	-.022	.018	.058	.082	.105	.129	.163	.164	.178	.181	.191	.178	.170	.183	.150	.135	.092	.065	.042	.020	.027	.014	.042	.059	.028	.026	.013
12	1.05	10.93		-.062	-.045	-.009	.041	.065	.092	.120	.159	.164	.174	.181	.195	.183	.184	.198	.166	.159	.101	.069	.045	.034	.040	.020	.048	.060	.028	.028	.015
13	0.00	11.59		-.052	-.049	-.012	.033	.060	.093	.119	.155	.161	.167	.167	.175	.154	.155	.191	.166	.150	.103	.061	.053	.045	.049	.021	.042	.052	.032	.023	.012
14	0.26	10.40		-.055	-.050	-.023	.009	.043	.079	.095	.128	.124	.122	.122	.130	.108	.086	.130	.150	.134	.084	.040	.026	.023	.023	-.012	.002	.016	.002	.017	.006
15	-1.12	8.32		-.037	-.075	-.057	-.038	-.007	.016	.024	.052	.030	.020	.020	.030	.015	.007	.017	.036	.118	.046	-.019	-.041	-.050	-.063	-.105	-.095	-.079	-.093	-.081	-.085
16	-2.75	6.13		.011	-.013	-.014	-.005	.016	.031	.033	.045	.014	-.007	-.012	-.012	-.026	-.028	-.023	-.050	.048	.099	-.005	-.058	-.060	-.076	-.126	-.149	-.144	-.149	-.155	-.141
17	-4.72	4.74		.042	.033	.010	.013	.005	.012	.011	.020	-.008	-.031	-.033	-.041	-.058	-.063	-.046	-.039	-.045	.004	.082	-.020	-.047	-.078	-.134	-.143	-.152	-.146	-.166	-.156
18	-7.13	3.95		-.017	.037	.034	.033	-.000	-.004	.002	-.012	-.031	-.056	-.060	-.066	-.090	-.095	-.078	-.060	-.048	-.121	-.061	.113	.076	.017	-.055	-.122	-.192	-.196	-.194	-.185
19	-9.46	3.78		-.050	.034	.048	.047	.029	.023	.027	.004	.004	-.009	-.005	-.018	-.030	-.046	-.026	.006	.033	.024	-.104	.067	.236	.210	.084	-.035	-.119	-.154	-.160	-.147
20	-11.74	4.28		.012	.044	.029	.028	.023	.041	.024	.027	.025	.015	.019	.016	.008	-.010	-.007	-.001	.031	.024	-.009	-.086	.037	.166	.110	.005	-.057	-.120	-.123	-.110
21	-13.63	4.39		.132	.075	.015	.024	.043	.052	.024	.025	.003	-.018	-.022	-.034	-.043	-.045	-.028	.006	.036	.044	.054	-.104	-.219	-.093	.096	.106	.051	.008	-.021	-.025
22	-15.11	4.24		.195	.085	-.015	.003	.030	.027	.016	.011	-.007	-.006	-.018	-.029	-.017	-.012	-.009	.009	.026	.044	.061	-.088	-.252	-.278	-.125	.098	.135	.101	.061	.039
23	-16.28	4.30		.152	.074	-.001	.009	.046	.033	.032	.039	.025	.021	.012	-.001	.011	.020	.009	.021	.021	.011	.068	-.086	-.188	-.223	-.216	-.036	.118	.159	.111	.071
24	-17.24	4.46		.110	.044	-.010	.001	.036	.028	.024	.024	.009	-.003	.004	-.021	-.022	-.023	-.018	-.002	.002	-.011	.018	-.088	-.132	-.137	-.174	-.191	-.036	.119	.074	.015
25	-18.12	4.69		.056	.040	.015	.034	.051	.031	.027	.043	.042	.034	.031	.013	.004	-.003	.011	.040	.035	.040	.041	.001	.005	-.009	-.082	-.144	-.139	-.012	.056	.034
26	-18.65	4.99		-.008	.014	.021	.030	.025	.014	-.014	-.010	-.009	-.020	-.020	-.015	-.011	-.017	-.000	.020	.031	.080	.064	.101	.104	.103	.088	-.026	-.097	-.133	-.053	.078
27	-19.24	5.32		-.022	.043	.065	.071	.050	.036	.023	.031	.039	.033	.023	.019	.020	.008	.026	.037	.073	.079	.071	.127	.151	.143	.154	.063	-.034	-.100	-.136	-.021

TABLE II.16 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: **ZONAL MEAN VALUES** - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

FALL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY.
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1456

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL SD	ALTITUDE (MSL) km: SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
		MERIDIONAL MEAN	-1.05	-0.59	-0.18	0.02	0.07	0.06	0.06	0.07	-0.05	-0.01	-0.18	-0.61	-1.02	-1.36	-1.67	-1.33	-1.15	-0.61	-0.53	-0.43	-0.31	-0.23	-0.33	-0.24	-0.27	-0.43	-0.58	-0.66
		SD	3.11	5.27	5.04	5.00	5.28	5.85	6.56	7.39	8.29	9.41	10.95	12.49	13.17	12.29	10.38	8.12	6.28	4.84	3.85	3.44	3.04	2.89	3.04	3.00	3.07	3.37	3.37	3.63
SFC	-0.93	3.25	-.011	.295	.227	.138	.079	.015	-.033	-.079	-.116	-.128	-.138	-.143	-.134	-.122	-.123	-.130	-.150	-.144	-.128	-.132	-.117	-.094	-.104	-.110	-.090	-.092	-.101	-.089
1	-1.47	6.12	-.124	.186	.154	.091	.036	-.018	-.040	-.088	-.106	-.114	-.123	-.124	-.087	-.061	-.060	-.059	-.075	-.077	-.077	-.066	-.075	-.070	-.082	-.084	-.085	-.074	-.088	-.077
2	0.64	6.55	-.092	.191	.202	.138	.096	.046	.024	-.021	-.029	-.035	-.051	-.050	-.017	-.002	.012	.020	.007	-.005	-.023	-.029	-.056	-.042	-.054	-.065	-.067	-.063	-.071	-.063
3	2.41	6.98	-.069	.185	.220	.171	.121	.072	.047	.013	.006	.002	-.010	-.017	.012	.018	.032	.026	.017	-.009	-.015	-.017	-.047	-.047	-.075	-.082	-.077	-.087	-.091	-.088
4	3.89	7.37	-.046	.197	.249	.202	.167	.122	.097	.063	.045	.038	.021	.011	.040	.042	.044	.027	.022	-.004	-.008	-.010	-.036	-.045	-.079	-.089	-.089	-.094	-.095	-.095
5	5.40	8.16	.002	.261	.317	.272	.249	.209	.184	.147	.123	.114	.093	.080	.105	.097	.090	.074	.068	.042	.026	.026	-.001	-.020	-.047	-.049	-.057	-.063	-.061	-.059
6	7.02	9.19	.040	.287	.336	.299	.282	.251	.224	.194	.172	.157	.129	.110	.130	.123	.110	.102	.104	.077	.047	.051	.016	-.001	-.041	-.034	-.051	-.058	-.059	-.055
7	8.75	10.29	.069	.290	.334	.308	.292	.261	.243	.217	.194	.184	.155	.131	.150	.143	.125	.107	.112	.089	.056	.062	.023	-.001	-.044	-.034	-.049	-.059	-.062	-.058
8	10.69	11.53	.099	.296	.335	.315	.304	.275	.257	.243	.221	.214	.184	.155	.187	.156	.145	.125	.127	.101	.067	.077	.024	-.001	-.042	-.035	-.060	-.073	-.073	-.069
9	12.76	12.96	.102	.282	.328	.317	.312	.281	.266	.252	.237	.236	.207	.172	.184	.172	.156	.140	.151	.128	.098	.103	.046	.007	-.029	-.026	-.056	-.070	-.071	-.069
10	14.64	14.52	.113	.275	.322	.321	.319	.291	.283	.270	.257	.263	.238	.200	.211	.198	.182	.162	.167	.161	.128	.130	.069	.022	-.013	-.010	-.045	-.056	-.057	-.053
11	16.52	15.60	.107	.233	.287	.285	.289	.266	.265	.256	.239	.254	.234	.202	.211	.196	.180	.161	.165	.162	.125	.132	.067	.012	-.019	-.017	-.052	-.062	-.063	-.055
12	17.91	16.19	.113	.208	.256	.253	.257	.238	.245	.241	.225	.242	.229	.200	.202	.198	.182	.159	.158	.153	.123	.130	.061	.013	-.017	-.015	-.046	-.054	-.057	-.052
13	18.00	15.93	.145	.218	.257	.251	.259	.249	.257	.259	.244	.252	.244	.215	.210	.206	.212	.181	.177	.166	.141	.146	.089	.047	.007	.015	-.011	-.019	-.019	-.019
14	16.28	14.84	.163	.235	.269	.257	.271	.266	.270	.275	.256	.259	.253	.227	.221	.192	.201	.196	.185	.170	.136	.137	.087	.062	.023	.025	.010	.000	.005	.008
15	13.26	12.91	.180	.250	.301	.297	.300	.290	.290	.293	.272	.267	.253	.228	.228	.214	.200	.196	.230	.202	.167	.155	.099	.076	.038	.036	.025	.013	.017	.020
16	9.49	10.91	.215	.289	.332	.312	.304	.284	.282	.280	.258	.248	.241	.222	.222	.213	.207	.169	.198	.211	.166	.150	.092	.059	.023	.017	.007	-.001	-.000	-.005
17	5.85	9.14	.222	.287	.315	.287	.283	.257	.254	.244	.216	.211	.203	.190	.191	.158	.175	.145	.129	.143	.171	.140	.068	.013	-.020	-.025	-.044	-.052	-.042	-.042
18	2.41	7.63	.167	.231	.263	.240	.230	.200	.204	.197	.177	.184	.181	.172	.176	.149	.153	.135	.118	.092	.140	.181	.062	.007	-.035	-.049	-.067	-.077	-.057	-.058
19	-0.28	6.85	.183	.206	.251	.254	.245	.226	.237	.228	.220	.226	.228	.230	.231	.208	.200	.182	.169	.181	.110	.181	.196	.093	.016	-.005	-.036	-.034	-.025	-.034
20	-2.14	6.64	.128	.140	.189	.199	.178	.166	.175	.161	.166	.165	.162	.171	.165	.158	.165	.148	.142	.157	.126	.083	.131	.144	.052	.008	-.022	-.041	-.032	-.048
21	-3.18	6.80	.110	.125	.156	.161	.155	.144	.144	.127	.124	.126	.132	.127	.121	.118	.110	.099	.105	.124	.135	.093	.006	.078	.096	.026	-.013	-.061	-.057	-.058
22	-3.77	7.34	.053	.113	.118	.110	.113	.106	.109	.105	.096	.091	.110	.109	.102	.096	.091	.079	.084	.094	.108	.083	.041	-.012	.024	.093	.038	-.019	-.029	-.032
23	-3.96	8.07	.031	.080	.118	.128	.128	.115	.114	.111	.105	.101	.118	.121	.125	.119	.128	.099	.127	.123	.138	.129	.117	.065	.013	.093	.125	.077	.065	.045
24	-3.79	8.87	.053	.064	.098	.106	.112	.104	.105	.100	.095	.090	.102	.108	.118	.120	.123	.113	.136	.134	.138	.142	.140	.126	.095	.074	.129	.173	.150	.111
25	-3.31	10.02	.004	.037	.039	.050	.058	.060	.064	.053	.042	.043	.050	.043	.054	.066	.067	.080	.100	.104	.113	.107	.124	.131	.144	.124	.105	.151	.193	.168
26	-2.59	10.95	.036	.056	.044	.036	.040	.033	.031	.033	.034	.035	.044	.035	.039	.040	.041	.054	.086	.077	.076	.091	.102	.134	.160	.167	.158	.150	.187	.222
27	-1.81	11.97	.097	.081	.074	.083	.088	.077	.074	.085	.088	.085	.090	.080	.076	.083	.087	.094	.112	.111	.090	.118	.127	.165	.168	.202	.198	.182	.147	.177

TABLE II.17 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

ANNUAL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 5884

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL MEAN SD	ALTITUDE (MSL)km SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			-0.12	0.93	0.70	0.65	0.70	0.73	0.75	0.82	0.81	0.82	0.74	0.42	0.13	-0.34	-0.80	-0.74	-0.58	-0.32	-0.26	-0.18	-0.18	-0.19	-0.22	-0.10	-0.05	-0.19	-0.25	-0.22
			3.24	5.23	5.21	5.56	6.04	6.60	7.29	8.08	8.52	10.11	11.45	12.85	13.40	12.60	10.87	8.95	7.41	6.18	4.98	4.11	3.57	3.46	3.47	3.49	3.44	3.54	3.69	4.02
SFC	-0.44	3.25	-.140	.215	.078	-.039	-.098	-.135	-.164	-.186	-.209	-.215	-.221	-.217	-.207	-.202	-.201	-.205	-.202	-.203	-.203	-.214	-.211	-.208	-.206	-.200	-.195	-.204	-.201	-.185
1	0.79	6.37	-.216	.088	.044	-.025	-.060	-.081	-.090	-.105	-.125	-.131	-.137	-.131	-.109	-.092	-.087	-.087	-.085	-.084	-.082	-.097	-.108	-.108	-.112	-.106	-.104	-.117	-.114	-.101
2	3.11	7.02	-.123	.126	.130	.072	.040	.017	.005	-.012	-.027	-.035	-.045	-.045	-.029	-.021	-.016	-.023	-.026	-.029	-.024	-.034	-.052	-.047	-.050	-.037	-.032	-.039	-.042	-.031
3	5.12	7.99	-.078	.141	.167	.121	.085	.061	.044	.032	.014	.005	-.006	-.009	.004	.006	.005	-.004	-.008	-.015	-.010	-.009	-.031	-.031	-.037	-.024	-.020	-.027	-.028	-.010
4	7.01	9.14	-.045	.152	.188	.155	.126	.099	.079	.064	.046	.033	.022	.019	.030	.030	.032	.018	.014	.008	.011	.010	.000	-.004	-.017	-.003	-.002	-.009	-.007	.011
5	8.85	10.57	-.003	.184	.229	.204	.184	.160	.139	.127	.107	.095	.083	.077	.081	.076	.075	.068	.060	.055	.059	.056	.045	.036	.025	.035	.038	.028	.031	.045
6	10.78	12.04	.051	.222	.280	.263	.249	.230	.208	.193	.175	.162	.147	.137	.140	.129	.130	.121	.114	.107	.110	.109	.096	.085	.069	.078	.072	.060	.065	.073
7	12.72	13.67	.085	.240	.304	.298	.288	.270	.252	.236	.220	.207	.191	.182	.181	.171	.167	.153	.143	.137	.139	.133	.120	.107	.088	.096	.092	.076	.079	.084
8	14.72	15.42	.107	.248	.322	.322	.314	.295	.278	.268	.253	.240	.226	.214	.211	.200	.195	.183	.170	.165	.165	.157	.145	.125	.105	.112	.104	.088	.093	.095
9	16.81	17.41	.122	.245	.324	.331	.323	.306	.289	.282	.272	.262	.246	.234	.230	.218	.216	.197	.185	.178	.180	.172	.159	.144	.129	.127	.117	.099	.102	.100
10	18.91	19.34	.136	.234	.316	.332	.327	.313	.300	.291	.285	.281	.270	.256	.252	.239	.238	.216	.199	.196	.197	.191	.175	.153	.135	.136	.125	.106	.112	.109
11	21.06	20.99	.138	.220	.302	.317	.314	.300	.289	.277	.272	.272	.264	.255	.252	.240	.237	.214	.198	.195	.195	.194	.180	.149	.132	.127	.120	.100	.101	.102
12	22.76	22.02	.140	.205	.289	.314	.317	.304	.298	.289	.284	.283	.280	.273	.271	.266	.260	.236	.220	.219	.220	.215	.198	.170	.149	.146	.138	.116	.119	.117
13	23.17	21.75	.166	.217	.304	.338	.351	.344	.342	.337	.333	.330	.326	.318	.309	.307	.315	.288	.270	.267	.268	.260	.248	.220	.201	.193	.188	.172	.174	.164
14	21.54	20.30	.173	.226	.316	.348	.368	.367	.370	.369	.363	.360	.355	.346	.340	.329	.338	.332	.312	.306	.305	.297	.279	.254	.231	.225	.227	.210	.212	.206
15	18.37	18.15	.184	.228	.324	.360	.380	.380	.384	.383	.375	.370	.362	.353	.352	.342	.339	.339	.347	.334	.331	.319	.298	.270	.246	.240	.245	.230	.232	.226
16	14.53	15.97	.191	.236	.338	.368	.380	.377	.381	.375	.367	.361	.352	.344	.342	.338	.338	.316	.327	.343	.328	.321	.297	.270	.244	.230	.232	.224	.225	.217
17	10.42	14.05	.202	.240	.331	.365	.363	.358	.356	.348	.340	.332	.323	.313	.309	.303	.309	.286	.275	.294	.309	.296	.271	.239	.219	.207	.204	.200	.203	.198
18	5.00	12.08	.196	.240	.316	.335	.337	.328	.327	.317	.307	.300	.291	.279	.273	.264	.266	.261	.248	.242	.273	.292	.252	.218	.155	.178	.174	.173	.172	.167
19	2.05	10.57	.193	.237	.302	.321	.313	.304	.304	.292	.285	.279	.270	.264	.261	.250	.244	.243	.241	.244	.226	.273	.273	.228	.159	.161	.147	.141	.138	.132
20	-0.92	9.79	.164	.182	.245	.255	.257	.252	.251	.244	.236	.232	.227	.222	.217	.212	.206	.201	.205	.211	.204	.202	.233	.234	.191	.164	.135	.121	.115	.104
21	-2.87	9.53	.122	.115	.145	.144	.151	.146	.142	.139	.130	.123	.125	.119	.111	.112	.105	.112	.122	.123	.138	.124	.095	.159	.172	.151	.117	.087	.085	.071
22	-4.12	9.71	.129	.111	.116	.118	.127	.116	.111	.106	.097	.087	.085	.085	.080	.078	.079	.081	.089	.094	.098	.101	.074	.052	.107	.131	.104	.088	.072	.050
23	-4.85	10.14	.096	.092	.115	.122	.127	.113	.113	.109	.100	.093	.096	.094	.091	.090	.093	.093	.103	.100	.113	.121	.111	.094	.073	.128	.150	.126	.118	.088
24	-5.09	10.90	.091	.086	.113	.128	.139	.128	.135	.134	.126	.120	.120	.117	.118	.110	.119	.127	.138	.135	.145	.150	.146	.140	.132	.115	.166	.185	.167	.138
25	-4.95	11.91	.045	.052	.078	.091	.100	.092	.093	.095	.086	.086	.088	.082	.087	.088	.105	.117	.128	.132	.144	.150	.153	.167	.178	.163	.143	.190	.204	.173
26	-4.63	12.88	.029	.041	.077	.086	.099	.095	.092	.096	.095	.095	.098	.096	.098	.099	.116	.125	.145	.146	.151	.165	.171	.202	.159	.204	.172	.159	.157	.209
27	-4.42	13.75	.078	.072	.114	.138	.146	.141	.141	.148	.148	.149	.153	.151	.149	.148	.166	.178	.192	.193	.197	.215	.217	.239	.248	.243	.220	.200	.191	.214

TABLE III

Page

Interlevel Coefficients of Linear Correlation
between Scalar Winds, Cape Kennedy, Florida

TABLE III. 1 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

JANUARY

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km		SCALAR MEAN	4.50	8.77	10.83	13.99	17.17	20.72	24.33	27.97	31.64	35.18	38.90	42.90	45.42	45.15	42.96	38.63	32.97	26.00	20.08	14.44	10.36	8.83	8.55	8.72	9.25	9.87	11.40	12.94
		SD	2.28	4.76	5.00	7.14	7.91	8.93	9.64	10.82	11.68	12.85	14.15	15.43	14.92	13.01	12.19	10.73	9.11	8.30	7.50	7.30	6.21	5.76	6.15	6.32	6.31	6.53	8.01	9.03
SFC	4.50	2.28	1.000																											
1	8.77	4.76	.430	1.000																										
2	10.83	5.00	.345	.732	1.000																									
3	13.99	7.14	.295	.617	.862	1.000																								
4	17.17	7.91	.290	.573	.770	.898	1.000																							
5	20.72	8.93	.277	.548	.732	.827	.921	1.000																						
6	24.33	9.64	.255	.485	.681	.768	.847	.925	1.000																					
7	27.97	10.82	.218	.454	.633	.716	.789	.863	.933	1.000																				
8	31.64	11.68	.215	.417	.585	.674	.722	.787	.855	.926	1.000																			
9	35.18	12.85	.159	.409	.553	.642	.684	.744	.792	.866	.924	1.000																		
10	38.90	14.15	.157	.375	.479	.566	.618	.688	.723	.785	.843	.927	1.000																	
11	42.90	15.43	.174	.357	.469	.545	.585	.657	.680	.725	.788	.866	.923	1.000																
12	45.42	14.92	.113	.337	.444	.526	.565	.628	.654	.690	.746	.809	.862	.896	1.000															
13	45.15	13.01	.102	.290	.385	.481	.524	.578	.591	.635	.657	.704	.745	.776	.850	1.000														
14	42.96	12.19	.118	.300	.396	.474	.534	.564	.582	.615	.625	.668	.685	.681	.747	.815	1.000													
15	38.63	10.73	.114	.192	.322	.393	.451	.489	.504	.539	.549	.581	.596	.606	.672	.706	.799	1.000												
16	32.97	9.11	.057	.137	.264	.324	.386	.383	.378	.414	.422	.455	.473	.481	.551	.614	.646	.779	1.000											
17	26.00	8.30	.026	.111	.219	.276	.328	.364	.366	.378	.382	.390	.424	.432	.481	.564	.622	.669	.774	1.000										
18	20.08	7.50	.024	.102	.198	.248	.292	.335	.359	.363	.365	.371	.386	.391	.408	.469	.558	.518	.444	.652	1.000									
19	14.44	7.30	.062	.064	.133	.205	.236	.263	.295	.319	.301	.295	.306	.289	.340	.338	.456	.387	.396	.446	.642	1.000								
20	10.36	6.21	.012	.042	.133	.184	.201	.230	.219	.235	.228	.232	.246	.242	.290	.274	.395	.412	.419	.441	.446	.644	1.000							
21	8.83	5.76	-.014	.047	.148	.182	.258	.238	.220	.258	.238	.230	.230	.254	.274	.316	.415	.465	.469	.459	.441	.390	.573	1.000						
22	8.55	6.15	-.007	.052	.170	.235	.292	.278	.283	.289	.267	.258	.273	.295	.289	.342	.444	.411	.361	.399	.472	.469	.486	.683	1.000					
23	8.72	6.32	.019	.097	.168	.225	.260	.267	.272	.284	.267	.288	.286	.288	.269	.268	.345	.363	.326	.332	.413	.418	.440	.461	.631	1.000				
24	9.25	6.31	.015	.076	.170	.229	.251	.245	.266	.272	.244	.239	.226	.228	.215	.211	.255	.266	.224	.218	.329	.331	.380	.415	.471	.666	1.000			
25	9.87	6.53	.040	.083	.127	.183	.207	.214	.226	.241	.233	.237	.223	.223	.210	.215	.289	.280	.193	.230	.309	.285	.318	.353	.452	.566	.780	1.000		
26	11.40	8.01	.089	.171	.181	.227	.232	.226	.218	.259	.245	.258	.252	.242	.240	.238	.306	.281	.221	.216	.237	.229	.247	.297	.419	.550	.561	.742	1.000	
27	12.94	9.03	.054	.167	.168	.208	.206	.189	.180	.226	.191	.215	.208	.200	.205	.203	.257	.247	.201	.163	.206	.214	.234	.278	.388	.478	.562	.682	.886	1.000

TABLE III. 2 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

FEBRUARY

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 452

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	ALTITUDE (MSL) km																											
			SCALAR MEAN	4.77	9.11	10.80	13.61	16.54	19.51	23.58	27.14	30.70	34.78	38.46	42.00	44.21	43.53	40.67	35.61	30.76	25.02	18.75	12.88	9.13	7.72	7.26	7.03	6.91	7.22	7.73	8.27
			SD	2.45	5.36	6.59	7.84	9.03	10.42	11.55	13.05	14.65	16.33	17.55	15.11	18.73	17.12	14.35	12.44	10.67	9.31	8.19	7.38	6.10	5.38	5.11	4.71	4.61	4.70	5.07	5.53
SFC	4.77	2.45	1.000																											
1	9.11	5.36	.450	1.000																										
2	10.80	6.59	.362	.768	1.000																									
3	13.61	7.84	.346	.629	.880	1.000																								
4	16.54	9.03	.323	.591	.804	.920	1.000																							
5	19.51	10.42	.283	.521	.757	.855	.940	1.000																						
6	23.58	11.55	.257	.475	.712	.808	.895	.948	1.000																					
7	27.14	13.05	.252	.454	.686	.784	.865	.914	.949	1.000																				
8	30.70	14.65	.199	.394	.643	.741	.813	.874	.911	.951	1.000																			
9	34.78	16.33	.149	.355	.595	.697	.768	.822	.858	.890	.950	1.000																		
10	38.46	17.59	.105	.297	.537	.651	.706	.764	.802	.826	.889	.942	1.000																	
11	42.00	19.11	.080	.263	.476	.608	.662	.703	.745	.771	.831	.896	.946	1.000																
12	44.21	18.73	.066	.272	.480	.611	.662	.700	.735	.758	.802	.849	.891	.933	1.000															
13	43.53	17.12	.075	.267	.469	.592	.645	.686	.727	.752	.793	.818	.846	.865	.892	1.000														
14	40.67	14.35	.017	.157	.354	.500	.570	.624	.672	.659	.736	.763	.801	.817	.831	.860	1.000													
15	35.61	12.44	.031	.173	.346	.483	.543	.558	.641	.653	.668	.686	.746	.751	.795	.835	.862	1.000												
16	30.76	10.67	.042	.136	.318	.456	.517	.559	.598	.600	.616	.632	.681	.697	.754	.767	.771	.846	1.000											
17	25.02	9.31	.010	.105	.276	.404	.474	.512	.535	.558	.589	.594	.620	.636	.683	.697	.706	.730	.831	1.000										
18	18.75	8.19	.034	.121	.267	.379	.455	.490	.498	.522	.536	.522	.532	.538	.573	.593	.575	.555	.598	.741	1.000									
19	12.88	7.38	.091	.137	.280	.376	.415	.455	.466	.474	.475	.472	.472	.479	.493	.506	.483	.481	.556	.579	.618	1.000								
20	9.13	6.10	.071	.111	.276	.296	.344	.376	.378	.375	.377	.374	.398	.376	.367	.395	.408	.417	.462	.456	.359	.511	1.000							
21	7.72	5.38	.081	.071	.145	.167	.223	.232	.218	.223	.248	.272	.267	.264	.271	.266	.303	.216	.279	.296	.362	.357	.519	1.000						
22	7.26	5.11	-.014	-.035	.058	.080	.126	.131	.133	.140	.151	.172	.171	.169	.150	.148	.165	.112	.146	.163	.178	.327	.332	.566	1.000					
23	7.03	4.71	-.042	-.042	.043	.070	.059	.103	.096	.116	.136	.156	.155	.159	.141	.150	.136	.082	.105	.121	.136	.203	.275	.432	.679	1.000				
24	6.91	4.61	-.070	-.006	.073	.068	.107	.093	.073	.077	.109	.112	.062	.061	.070	.087	.053	.007	.015	.058	.061	.017	.097	.353	.498	.700	1.000			
25	7.22	4.70	.030	.070	.086	.078	.113	.095	.062	.064	.085	.087	.038	.037	.036	.039	.024	-.009	.019	.011	.036	.044	.093	.267	.395	.521	.719	1.000		
26	7.73	5.07	-.009	.049	.086	.075	.091	.082	.064	.051	.057	.076	.030	.043	.046	.045	-.010	.017	.018	.035	.056	.009	.068	.205	.277	.432	.564	.680	1.000	
27	8.27	5.53	.016	.084	.128	.105	.113	.108	.074	.068	.066	.072	.001	.007	.040	.015	-.021	-.031	-.036	-.007	.017	.025	.046	.176	.282	.356	.566	.602	.753	1.000

TABLE III.3 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

MARCH

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	4.71	8.92	10.50	13.40	16.84	20.62	24.44	28.35	32.18	36.50	40.90	45.20	47.92	47.30	43.21	37.64	31.78	25.91	19.17	12.46	8.89	7.02	6.24	5.90	6.17	6.57	6.96	7.87
			2.40	4.89	6.14	7.51	8.49	9.43	9.97	10.99	11.83	13.41	14.79	15.91	15.90	14.12	12.39	10.51	9.38	8.83	7.94	6.83	5.93	4.37	4.57	4.82	4.89	5.44	5.47	6.14
SFC	4.71	2.40	1.000																											
1	8.92	4.89	.459	1.000																										
2	10.50	6.14	.334	.714	1.000																									
3	13.40	7.51	.345	.580	.846	1.000																								
4	16.84	8.49	.315	.552	.747	.888	1.000																							
5	20.62	9.43	.292	.509	.682	.799	.923	1.000																						
6	24.44	9.97	.293	.487	.640	.733	.850	.925	1.000																					
7	28.35	10.99	.282	.450	.573	.668	.775	.850	.919	1.000																				
8	32.18	11.83	.247	.387	.533	.634	.745	.819	.873	.930	1.000																			
9	36.50	13.41	.190	.300	.451	.568	.673	.750	.809	.855	.926	1.000																		
10	40.90	14.79	.175	.238	.392	.509	.611	.681	.734	.783	.859	.937	1.000																	
11	45.20	15.91	.123	.177	.330	.453	.541	.618	.670	.713	.780	.865	.919	1.000																
12	47.92	15.90	.118	.161	.283	.402	.488	.562	.612	.638	.710	.764	.832	.894	1.000															
13	47.30	14.12	.140	.187	.279	.369	.454	.514	.569	.559	.661	.697	.748	.794	.880	1.000														
14	43.21	12.39	.146	.185	.274	.350	.417	.466	.519	.546	.588	.610	.649	.669	.726	.796	1.000													
15	37.64	10.51	.111	.155	.270	.340	.386	.430	.483	.503	.541	.556	.564	.565	.600	.655	.738	1.000												
16	31.78	9.38	.106	.134	.246	.315	.345	.369	.424	.442	.466	.465	.475	.469	.535	.601	.643	.779	1.000											
17	25.91	8.83	.057	.088	.217	.246	.290	.320	.361	.379	.427	.419	.445	.435	.511	.548	.604	.662	.757	1.000										
18	19.17	7.94	.047	.057	.220	.226	.261	.288	.323	.300	.328	.311	.316	.334	.416	.443	.502	.515	.551	.697	1.000									
19	12.46	6.83	.079	.091	.180	.198	.208	.208	.251	.256	.252	.240	.230	.225	.274	.318	.326	.374	.420	.432	.631	1.000								
20	8.89	5.93	.058	.087	.195	.202	.204	.234	.266	.248	.277	.289	.273	.270	.316	.300	.290	.388	.382	.460	.469	.540	1.000							
21	7.02	4.37	.016	.149	.207	.235	.311	.337	.333	.335	.349	.354	.352	.351	.344	.298	.265	.307	.273	.298	.370	.330	.494	1.000						
22	6.24	4.97	.046	.226	.188	.186	.260	.255	.274	.282	.284	.255	.241	.209	.205	.161	.079	.139	.107	.105	.098	.093	.173	.507	1.000					
23	5.90	4.82	-.029	.168	.135	.135	.221	.255	.242	.237	.235	.201	.183	.166	.159	.136	.069	.054	.063	.087	.071	.020	.101	.366	.706	1.000				
24	6.17	4.89	-.008	.202	.156	.150	.227	.254	.256	.245	.254	.219	.200	.178	.166	.151	.092	.044	.064	.114	.084	.035	.080	.274	.572	.746	1.000			
25	6.57	5.44	.018	.198	.168	.175	.210	.219	.225	.200	.214	.167	.162	.143	.154	.168	.168	.175	.168	.224	.240	.190	.113	.191	.413	.529	.711	1.000		
26	6.96	5.47	.055	.148	.134	.155	.200	.195	.220	.206	.218	.184	.165	.115	.125	.127	.144	.133	.165	.185	.195	.144	.106	.158	.349	.452	.570	.753	1.000	
27	7.87	6.14	.081	.178	.137	.155	.185	.183	.201	.168	.186	.158	.132	.071	.079	.084	.090	.057	.127	.155	.168	.079	.047	.164	.320	.425	.559	.648	.791	1.000

TABLE III. 4 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

APRIL

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN		4.63	8.07	8.70	10.77	12.96	15.17	17.82	20.68	23.83	27.12	30.75	34.75	38.07	39.22	35.99	31.03	25.58	19.84	13.53	8.86	6.64	5.88	5.85	6.07	6.33	6.80	6.92	6.90
	SD		2.14	4.63	5.40	6.58	7.70	8.98	10.13	11.16	12.53	14.42	15.37	16.44	17.26	16.73	14.72	12.23	10.50	8.96	6.88	5.79	4.32	3.47	3.07	3.35	3.65	3.57	4.49	4.56
SFC	4.63	2.14	1.000																											
1	8.07	4.63	.502	1.000																										
2	8.70	5.40	.379	.702	1.000																									
3	10.77	6.58	.332	.553	.805	1.000																								
4	12.96	7.70	.347	.514	.707	.887	1.000																							
5	15.17	8.98	.331	.488	.660	.813	.921	1.000																						
6	17.82	10.13	.305	.468	.600	.763	.852	.934	1.000																					
7	20.68	11.16	.293	.363	.571	.737	.823	.855	.949	1.000																				
8	23.83	12.53	.289	.331	.540	.704	.779	.854	.906	.951	1.000																			
9	27.12	14.42	.274	.310	.512	.680	.736	.800	.850	.893	.949	1.000																		
10	30.75	15.37	.268	.306	.472	.622	.691	.754	.796	.837	.897	.947	1.000																	
11	34.75	16.44	.233	.270	.411	.567	.635	.706	.752	.802	.859	.910	.952	1.000																
12	38.07	17.26	.221	.259	.396	.539	.596	.666	.707	.757	.812	.857	.897	.943	1.000															
13	39.22	16.73	.197	.286	.407	.530	.564	.672	.702	.741	.792	.827	.846	.886	.925	1.000														
14	35.99	14.72	.164	.276	.336	.473	.570	.645	.692	.712	.740	.764	.798	.821	.862	.889	1.000													
15	31.03	12.23	.152	.255	.344	.468	.550	.626	.658	.683	.710	.733	.746	.764	.793	.826	.869	1.000												
16	25.58	10.50	.197	.238	.306	.443	.528	.586	.621	.637	.656	.693	.711	.733	.748	.771	.793	.875	1.000											
17	19.84	8.96	.127	.194	.248	.381	.490	.544	.593	.597	.605	.624	.631	.644	.676	.684	.746	.723	.790	1.000										
18	13.53	6.88	.122	.151	.182	.291	.398	.469	.531	.530	.531	.551	.565	.567	.571	.560	.580	.581	.635	.744	1.000									
19	8.86	5.79	.107	.136	.219	.311	.372	.438	.471	.468	.468	.468	.482	.466	.443	.453	.430	.482	.531	.468	.611	1.000								
20	6.64	4.32	.157	.198	.266	.360	.355	.382	.394	.404	.399	.420	.394	.365	.349	.302	.311	.334	.378	.342	.274	.473	1.000							
21	5.88	3.47	.057	.087	.173	.208	.192	.194	.211	.229	.230	.242	.215	.198	.169	.152	.146	.136	.117	.142	.176	.245	.521	1.000						
22	5.85	3.07	.076	.111	.107	.086	.035	.050	.061	.084	.071	.057	.052	.057	.055	.071	.026	.023	.028	.039	.070	.118	.262	.444	1.000					
23	6.07	3.39	.118	.121	.157	.159	.115	.108	.083	.111	.106	.099	.095	.099	.082	.098	-.001	-.003	.002	-.023	-.023	.037	.088	.292	.514	1.000				
24	6.33	3.65	.100	.089	.094	.075	.043	.032	.015	.047	.022	.026	.036	.038	.010	.004	-.043	-.063	-.018	.008	-.073	-.016	.078	.201	.382	.655	1.000			
25	6.80	3.97	.014	.117	.106	.061	.050	.043	.039	.058	.038	.047	.068	.066	.026	.015	-.018	-.038	-.002	.008	-.027	-.004	-.005	.181	.324	.502	.704	1.000		
26	6.92	4.49	-.013	.135	.122	.113	.111	.116	.101	.126	.105	.122	.140	.137	.092	.062	.032	.005	.020	.025	-.013	.024	.051	.201	.335	.484	.568	.778	1.000	
27	6.90	4.56	.000	.112	.120	.097	.118	.111	.095	.118	.107	.107	.114	.110	.074	.027	.018	-.003	.000	.023	-.020	.032	.045	.179	.304	.427	.523	.664	.821	1.000

TABLE III. 5 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

MAY

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km			SCALAR MEAN	4.02	6.02	6.20	6.58	7.46	8.31	9.57	11.03	12.72	14.68	17.01	20.05	22.72	24.48	23.25	19.79	15.59	11.10	7.63	5.56	5.48	6.13	6.98	7.60	8.27	8.76	9.08	9.06
			SD	2.05	3.17	3.68	4.38	5.03	5.48	6.20	7.02	7.80	8.79	10.35	11.50	12.81	13.10	11.46	8.66	6.41	4.92	3.78	2.98	2.89	3.10	3.42	3.59	3.90	4.11	4.38	4.67
SFC	4.02	2.05	1.000																											
1	6.02	3.17	.421	1.000																										
2	6.20	3.68	.209	.586	1.000																									
3	6.58	4.38	.148	.471	.764	1.000																								
4	7.46	5.03	.123	.400	.595	.820	1.000																							
5	8.31	5.48	.104	.354	.512	.708	.855	1.000																						
6	9.57	6.20	.079	.256	.410	.622	.740	.868	1.000																					
7	11.03	7.02	.044	.207	.354	.552	.681	.787	.906	1.000																				
8	12.72	7.80	-.003	.126	.307	.490	.633	.733	.837	.912	1.000																			
9	14.68	8.79	-.009	.107	.304	.439	.579	.676	.780	.832	.929	1.000																		
10	17.01	10.39	-.027	.079	.271	.396	.532	.610	.687	.749	.844	.925	1.000																	
11	20.05	11.50	-.028	.089	.276	.371	.490	.577	.650	.709	.800	.875	.925	1.000																
12	22.72	12.81	-.021	.074	.222	.307	.421	.526	.611	.658	.750	.823	.872	.940	1.000															
13	24.48	13.10	-.046	.042	.169	.250	.376	.474	.558	.605	.685	.748	.802	.853	.922	1.000														
14	23.25	11.46	-.088	.001	.158	.237	.342	.436	.524	.587	.656	.713	.743	.782	.835	.898	1.000													
15	19.79	8.66	-.049	.032	.145	.198	.311	.403	.486	.554	.608	.645	.649	.683	.727	.770	.874	1.000												
16	15.59	6.41	.026	.075	.155	.202	.264	.380	.449	.486	.522	.538	.547	.561	.596	.646	.694	.794	1.000											
17	11.10	4.92	.058	.171	.148	.152	.233	.324	.343	.366	.360	.363	.378	.403	.441	.479	.488	.572	.736	1.000										
18	7.63	3.78	.055	.170	.147	.170	.204	.281	.273	.274	.259	.254	.238	.257	.285	.269	.290	.337	.395	.622	1.000									
19	5.56	2.98	.044	.085	.074	.055	.036	.059	.008	-.012	-.029	-.021	-.031	-.045	-.018	-.052	-.090	-.069	-.009	.175	.447	1.000								
20	5.48	2.89	.058	.107	.080	.039	.024	-.013	-.057	-.113	-.137	-.137	-.161	-.188	-.198	-.212	-.251	-.287	-.305	-.154	.154	.520	1.000							
21	6.13	3.10	-.008	-.014	-.037	-.034	-.051	-.076	-.106	-.115	-.120	-.124	-.145	-.181	-.193	-.183	-.220	-.265	-.335	-.288	-.128	.200	.554	1.000						
22	6.98	3.42	-.018	-.045	-.032	-.016	-.028	-.044	-.036	-.060	-.049	-.057	-.069	-.105	-.111	-.110	-.136	-.222	-.291	-.353	-.213	.097	.385	.630	1.000					
23	7.60	3.59	-.017	-.068	-.073	-.027	-.019	-.070	-.049	-.049	-.066	-.078	-.071	-.086	-.097	-.091	-.095	-.177	-.294	-.355	-.263	-.016	.235	.462	.722	1.000				
24	8.27	3.90	-.051	-.112	-.126	-.094	-.085	-.114	-.118	-.110	-.103	-.102	-.104	-.131	-.141	-.123	-.131	-.194	-.291	-.352	-.262	-.006	.210	.434	.564	.768	1.000			
25	8.76	4.11	-.063	-.188	-.196	-.196	-.176	-.192	-.167	-.134	-.103	-.088	-.086	-.108	-.109	-.087	-.101	-.150	-.233	-.294	-.228	-.019	.188	.423	.495	.648	.768	1.000		
26	9.08	4.38	-.058	-.213	-.268	-.275	-.254	-.254	-.217	-.190	-.165	-.145	-.138	-.147	-.151	-.140	-.151	-.197	-.271	-.320	-.275	-.039	.149	.352	.436	.558	.674	.810	1.000	
27	9.06	4.67	-.080	-.233	-.276	-.283	-.291	-.295	-.250	-.225	-.213	-.179	-.171	-.178	-.179	-.167	-.183	-.230	-.276	-.302	-.277	-.067	.087	.270	.345	.473	.590	.660	.835	1.000

TABLE III. 6 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

JUNE

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	ALTITUDE (MSL) km																													
	SCALAR MEAN		-3.45	-5.54	-5.51	-5.56	-5.71	-6.04	-6.53	-7.39	-8.06	-9.60	-11.18	-12.87	-14.28	-15.89	-14.46	-11.84	-8.85	-6.83	-6.72	-7.66	-9.25	-10.69	-12.19	-13.35	-14.06	-14.89	-15.38	-15.80
	SD		2.10	2.99	3.26	3.36	3.76	3.82	3.99	4.33	4.77	5.49	6.33	7.37	8.93	9.27	8.33	6.81	4.53	3.34	3.17	3.40	3.84	3.79	3.65	3.62	3.94	4.20	4.35	4.64
SFC	3.45	2.10	1.000																											
1	5.54	2.99	.344	1.000																										
2	5.51	3.26	.221	.667	1.000																									
3	5.56	3.36	.130	.532	.781	1.000																								
4	5.71	3.76	.067	.404	.620	.803	1.000																							
5	6.04	3.82	.128	.405	.554	.679	.834	1.000																						
6	6.53	3.99	.089	.304	.461	.569	.695	.818	1.000																					
7	7.39	4.33	.129	.262	.371	.495	.592	.668	.827	1.000																				
8	8.06	4.77	.073	.144	.275	.390	.458	.547	.696	.833	1.000																			
9	9.60	5.49	.084	.056	.177	.273	.368	.438	.601	.711	.858	1.000																		
10	11.18	6.33	.078	.003	.097	.159	.281	.338	.516	.612	.744	.884	1.000																	
11	12.87	7.37	.082	-.020	.077	.156	.245	.279	.448	.533	.664	.805	.908	1.000																
12	14.28	8.93	.115	-.038	.063	.142	.219	.238	.376	.467	.580	.698	.806	.897	1.000															
13	15.89	9.27	.097	-.044	.061	.132	.225	.237	.364	.435	.509	.629	.722	.793	.906	1.000														
14	14.46	8.33	.086	.034	.129	.187	.234	.241	.358	.435	.463	.574	.640	.672	.758	.864	1.000													
15	11.84	6.81	.084	.051	.111	.149	.175	.185	.302	.383	.409	.483	.542	.535	.605	.678	.823	1.000												
16	8.85	4.53	.066	-.004	.036	.027	.043	.048	.101	.165	.195	.252	.281	.289	.338	.402	.519	.736	1.000											
17	6.83	3.34	.009	-.045	-.013	-.018	-.009	-.021	.000	.019	-.015	.008	.022	.070	.070	.125	.171	.300	.535	1.000										
18	6.72	3.17	-.059	-.101	-.139	-.139	-.157	-.135	-.169	-.153	-.166	-.150	-.127	-.087	-.130	-.106	-.085	-.002	.216	.584	1.000									
19	7.66	3.40	-.112	-.073	-.132	-.129	-.143	-.143	-.201	-.189	-.151	-.169	-.168	-.149	-.206	-.200	-.207	-.155	.050	.388	.697	1.000								
20	9.25	3.84	-.141	.005	-.035	-.023	-.062	-.058	-.125	-.124	-.135	-.140	-.118	-.099	-.123	-.129	-.117	-.097	.021	.302	.513	.731	1.000							
21	10.69	3.79	-.211	-.026	-.012	-.004	-.038	-.072	-.109	-.104	-.089	-.133	-.117	-.120	-.128	-.140	-.128	-.105	-.019	.220	.396	.559	.771	1.000						
22	12.19	3.65	-.166	.009	.014	.039	.026	-.005	-.022	-.048	-.067	-.099	-.115	-.114	-.133	-.125	-.102	-.119	-.079	.145	.331	.444	.558	.723	1.000					
23	13.35	3.62	-.066	-.019	-.016	-.004	-.001	-.016	-.062	-.090	-.089	-.124	-.139	-.143	-.160	-.159	-.139	-.150	-.090	.105	.294	.398	.397	.465	.723	1.000				
24	14.06	3.94	.007	-.011	-.026	-.043	-.023	-.041	-.069	-.081	-.098	-.112	-.145	-.132	-.145	-.136	-.115	-.133	-.074	.103	.248	.349	.312	.274	.502	.754	1.000			
25	14.89	4.20	.067	-.021	-.088	-.118	-.152	-.153	-.175	-.186	-.192	-.167	-.174	-.165	-.184	-.178	-.168	-.160	-.082	.123	.245	.350	.207	.240	.361	.538	.771	1.000		
26	15.38	4.35	.026	-.072	-.120	-.164	-.196	-.164	-.190	-.198	-.204	-.161	-.173	-.169	-.171	-.163	-.144	-.135	-.049	.115	.245	.344	.217	.288	.350	.461	.602	.778	1.000	
27	15.80	4.64	.007	-.073	-.108	-.142	-.190	-.151	-.190	-.211	-.207	-.172	-.174	-.154	-.174	-.152	-.155	-.166	-.077	.096	.266	.363	.324	.332	.378	.446	.491	.602	.792	1.000

TABLE III. 7 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

JULY

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	3.13	5.49	5.10	5.02	5.20	5.35	5.53	5.75	6.33	7.41	8.61	10.01	11.29	12.60	11.66	9.43	7.91	7.92	9.18	11.24	13.57	15.59	17.08	18.30	19.37	20.25	20.91	21.36
			1.76	3.23	3.33	3.07	3.22	3.08	3.34	3.17	3.41	4.13	4.75	5.52	6.02	6.45	5.81	4.74	3.62	3.19	2.93	2.88	3.62	3.63	3.30	3.39	3.36	3.79	4.15	4.65
SFC	3.13	1.76	1.000																											
1	5.49	3.23	.273	1.000																										
2	5.10	3.33	.209	.788	1.000																									
3	5.02	3.07	.154	.661	.806	1.000																								
4	5.20	3.22	.157	.566	.679	.775	1.000																							
5	5.35	3.08	.135	.433	.526	.578	.761	1.000																						
6	5.53	3.34	.115	.331	.379	.380	.516	.714	1.000																					
7	5.75	3.17	.109	.179	.205	.214	.357	.513	.701	1.000																				
8	6.33	3.41	.059	.064	.087	.102	.233	.344	.508	.732	1.000																			
9	7.41	4.13	.044	-.022	.002	.018	.089	.177	.324	.528	.771	1.000																		
10	8.61	4.79	.068	.033	.050	.059	.133	.183	.314	.453	.644	.837	1.000																	
11	10.01	5.52	.059	.031	.020	.041	.079	.105	.224	.327	.521	.685	.840	1.000																
12	11.29	6.02	.075	.045	.041	.041	.061	.082	.196	.296	.465	.598	.726	.872	1.000															
13	12.60	6.45	.079	.035	.045	.048	.084	.113	.181	.270	.418	.507	.625	.719	.841	1.000														
14	11.66	5.81	.018	.053	.065	.063	.092	.057	.101	.168	.288	.367	.485	.547	.628	.808	1.000													
15	9.43	4.74	-.045	-.031	-.032	-.052	-.040	-.021	.043	.114	.221	.260	.335	.349	.401	.513	.679	1.000												
16	7.91	3.62	-.040	-.055	-.078	-.093	-.069	-.072	.026	.055	.131	.114	.125	.113	.123	.189	.347	.658	1.000											
17	7.92	3.19	-.013	-.022	-.036	-.071	-.029	-.041	.044	.030	.088	.037	.077	.047	.093	.115	.169	.391	.604	1.000										
18	9.18	2.93	-.011	-.134	-.124	-.129	-.105	-.094	-.014	.036	.112	.124	.140	.185	.207	.183	.148	.231	.314	.538	1.000									
19	11.24	2.88	-.058	-.021	.015	-.024	-.047	.001	.051	.045	.059	.074	.132	.164	.173	.232	.180	.156	.193	.287	.479	1.000								
20	13.57	3.62	-.205	.048	.086	.059	-.008	-.012	.076	.068	.089	.096	.162	.143	.137	.158	.139	.128	.203	.254	.297	.643	1.000							
21	15.59	3.63	-.226	.040	.067	.048	-.019	-.046	.033	.026	.070	.091	.120	.094	.084	.114	.136	.123	.198	.237	.235	.446	.736	1.000						
22	17.08	3.30	-.102	.030	.020	.032	.032	.038	.046	.027	.082	.105	.132	.121	.121	.138	.185	.135	.157	.193	.213	.315	.402	.612	1.000					
23	18.30	3.39	.041	.012	-.035	-.056	.047	.079	.121	.110	.123	.090	.096	.089	.141	.150	.181	.145	.135	.182	.210	.205	.154	.269	.607	1.000				
24	19.37	3.36	.086	.047	-.007	-.018	.075	.101	.087	.086	.082	.100	.135	.087	.163	.157	.114	.053	.012	.116	.187	.145	.062	.097	.343	.648	1.000			
25	20.25	3.79	.137	.033	-.020	.004	.062	.109	.079	.069	.083	.103	.135	.100	.135	.111	.095	.065	.063	.130	.124	.139	.038	.067	.204	.410	.639	1.000		
26	20.91	4.15	.096	.080	.024	.058	.066	.094	.046	.043	.041	.051	.154	.140	.152	.171	.132	.067	.012	.097	.117	.114	.077	.100	.246	.364	.438	.715	1.000	
27	21.36	4.65	.147	.061	.021	.058	.097	.142	.063	.084	.050	.067	.098	.094	.100	.106	.055	.023	-.032	.094	.079	.095	.051	.064	.188	.225	.243	.486	.693	1.000

TABLE III.8 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: **SCALAR MEAN VALUES** - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

AUGUST

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
SCALAR MEAN			2.83	5.02	4.84	5.02	5.19	5.56	5.68	5.95	6.34	6.98	8.22	9.59	10.98	11.57	10.33	7.77	6.45	6.96	8.74	10.95	13.40	15.41	17.02	18.09	18.99	19.85	20.35	21.33
		SD	1.68	2.74	2.69	2.78	2.94	3.26	3.52	3.73	3.85	4.14	5.02	5.47	5.86	5.82	5.44	4.05	3.36	3.23	3.00	3.24	3.46	3.44	3.34	3.46	3.65	3.84	4.12	4.43
SFC	2.83	1.68	1.000																											
1	5.02	2.74	.326	1.000																										
2	4.84	2.69	.121	.712	1.000																									
3	5.02	2.78	.071	.541	.739	1.000																								
4	5.19	2.94	.072	.387	.546	.757	1.000																							
5	5.56	3.26	.062	.315	.479	.631	.799	1.000																						
6	5.68	3.52	.039	.217	.384	.509	.634	.804	1.000																					
7	5.95	3.73	.011	.074	.280	.379	.502	.632	.818	1.000																				
8	6.34	3.85	.007	.033	.180	.274	.382	.485	.648	.767	1.000																			
9	6.98	4.14	.128	.009	.118	.148	.233	.318	.474	.558	.778	1.000																		
10	8.22	5.02	.130	.003	.078	.079	.174	.244	.397	.496	.618	.851	1.000																	
11	9.59	5.47	.108	-.003	.021	.043	.127	.189	.325	.399	.516	.708	.870	1.000																
12	0.98	5.86	.072	-.013	-.040	-.046	.041	.094	.233	.308	.440	.592	.745	.883	1.000															
13	11.57	5.82	.116	.008	-.061	-.055	.046	.074	.195	.278	.414	.550	.655	.735	.851	1.000														
14	10.33	5.44	.066	-.026	-.052	-.044	.035	.062	.205	.292	.411	.490	.545	.569	.642	.791	1.000													
15	7.77	4.05	.104	-.009	-.027	-.026	.033	.044	.168	.202	.311	.350	.375	.392	.469	.589	.744	1.000												
16	6.45	3.36	.096	.034	-.047	.004	.051	.036	.131	.133	.189	.207	.234	.235	.281	.361	.453	.631	1.000											
17	6.96	3.23	.078	.056	-.029	-.034	-.004	-.009	.018	.009	.057	.112	.140	.110	.127	.191	.253	.312	.570	1.000										
18	8.74	3.00	.045	.008	-.025	-.064	-.068	-.038	.011	.019	.088	.110	.138	.138	.107	.147	.197	.271	.409	.581	1.000									
19	10.95	3.24	-.062	.050	.050	-.035	-.060	-.064	-.029	-.034	.017	.030	.070	.059	.061	.109	.175	.196	.288	.402	.571	1.000								
20	13.40	3.46	-.161	-.003	-.002	-.009	-.002	-.022	-.016	-.065	-.004	.020	.088	.087	.086	.127	.152	.185	.228	.259	.312	.719	1.000							
21	15.41	3.44	-.168	-.031	-.066	-.038	-.033	-.068	-.061	-.107	.018	.070	.096	.096	.094	.156	.181	.200	.251	.231	.231	.503	.687	1.000						
22	17.02	3.34	-.155	-.090	-.090	-.042	-.036	-.063	-.017	-.064	.028	.100	.087	.049	.077	.135	.189	.220	.271	.272	.269	.405	.517	.719	1.000					
23	18.09	3.46	-.075	-.114	-.090	-.062	-.042	-.040	-.053	-.081	-.012	.077	.065	.018	.013	.067	.135	.163	.213	.232	.289	.320	.350	.420	.642	1.000				
24	18.99	3.65	.005	-.030	-.039	.008	.026	.001	-.011	-.031	.012	.054	.066	.044	.014	.066	.153	.166	.159	.214	.258	.218	.206	.239	.308	.648	1.000			
25	19.85	3.84	.072	-.028	-.065	-.020	.005	-.032	-.060	-.071	.002	.020	.006	.005	-.016	.041	.121	.107	.118	.218	.272	.142	.141	.155	.216	.467	.670	1.000		
26	20.35	4.12	.113	-.055	-.062	-.013	.029	-.040	-.061	-.070	.016	.035	.028	.025	.020	.072	.116	.100	.120	.167	.207	.084	.102	.147	.193	.330	.423	.676	1.000	
27	21.33	4.43	.140	-.063	-.078	-.035	-.041	-.082	-.078	-.059	-.046	-.012	-.032	.011	.007	.040	.080	.080	.100	.104	.185	.114	.170	.170	.196	.281	.304	.421	.666	1.000

TABLE III. 9 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

SEPTEMBER

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			SCALAR MEAN	3.76	6.40	6.62	5.74	5.72	6.05	6.40	6.80	7.58	8.84	10.36	12.13	13.56	14.02	12.90	10.12	7.42	6.04	5.96	7.02	8.71	10.24	11.47	12.31	12.90	13.63	13.99	14.31
			SD	2.48	4.21	4.11	3.93	3.98	3.99	3.91	4.33	4.73	5.35	6.01	6.60	7.13	7.47	6.88	5.51	3.89	3.22	3.28	3.45	3.79	3.53	3.52	3.68	3.84	4.14	4.59	4.98
SFC	3.76	2.48	1.000																											
1	6.40	4.21	.642	1.000																										
2	6.62	4.11	.521	.839	1.000																									
3	5.74	3.93	.387	.660	.818	1.000																								
4	5.72	3.98	.226	.510	.650	.840	1.000																							
5	6.05	3.99	.190	.428	.551	.711	.849	1.000																						
6	6.40	3.91	.163	.366	.459	.595	.711	.827	1.000																					
7	6.80	4.33	.212	.309	.422	.556	.631	.714	.845	1.000																				
8	7.58	4.73	.221	.235	.332	.487	.521	.570	.643	.818	1.000																			
9	8.84	5.35	.268	.203	.282	.393	.412	.443	.498	.651	.828	1.000																		
10	10.36	6.01	.232	.169	.215	.318	.312	.314	.368	.506	.674	.862	1.000																	
11	12.13	6.60	.194	.124	.136	.191	.195	.192	.233	.371	.526	.718	.878	1.000																
12	13.56	7.13	.154	.077	.058	.085	.080	.096	.134	.252	.384	.569	.704	.865	1.000															
13	14.02	7.47	.139	.062	.038	.042	.035	.056	.084	.169	.287	.451	.588	.739	.892	1.000														
14	12.90	6.88	.102	.039	.029	.025	.026	.040	.080	.154	.248	.359	.472	.588	.723	.833	1.000													
15	10.12	5.51	.012	-.004	-.016	-.001	.043	.076	.098	.165	.243	.311	.390	.473	.550	.605	.785	1.000												
16	7.42	3.89	-.010	-.056	-.041	-.031	.015	.083	.098	.122	.200	.215	.245	.277	.314	.337	.459	.668	1.000											
17	6.04	3.22	-.155	-.064	-.044	-.011	.044	.047	.014	.023	.044	.014	-.004	.028	.057	.067	.184	.349	.548	1.000										
18	5.96	3.28	-.140	-.059	-.033	.007	.007	.004	-.009	-.003	-.042	-.097	-.097	-.091	-.081	-.084	.011	.144	.309	.584	1.000									
19	7.02	3.45	-.139	-.039	-.017	.002	-.008	-.040	-.084	-.133	-.180	-.184	-.151	-.131	-.090	-.079	-.021	.061	.189	.361	.603	1.000								
20	8.71	3.79	-.130	-.039	-.007	-.009	-.025	-.058	-.095	-.104	-.153	-.183	-.165	-.159	-.126	-.105	-.077	-.006	.075	.231	.441	.731	1.000							
21	10.24	3.53	-.136	-.068	-.029	-.028	-.053	-.089	-.119	-.149	-.174	-.225	-.225	-.215	-.198	-.187	-.189	-.098	-.011	.206	.338	.530	.701	1.000						
22	11.47	3.52	-.095	-.015	.031	.061	.016	-.001	-.042	-.063	-.084	-.120	-.111	-.109	-.127	-.122	-.143	-.071	-.004	.162	.271	.449	.521	.669	1.000					
23	12.31	3.68	-.121	-.060	-.018	-.009	-.037	-.053	-.104	-.102	-.133	-.151	-.125	-.127	-.108	-.097	-.123	-.051	.007	.157	.221	.389	.504	.502	.704	1.000				
24	12.90	3.84	-.088	-.104	-.042	-.059	-.102	-.110	-.139	-.158	-.141	-.146	-.115	-.124	-.097	-.080	-.127	-.079	-.013	.098	.167	.357	.431	.445	.516	.761	1.000			
25	13.63	4.14	-.071	-.106	-.068	-.089	-.136	-.138	-.165	-.174	-.138	-.135	-.117	-.140	-.115	-.104	-.160	-.127	-.030	.023	.169	.361	.427	.453	.494	.600	.763	1.000		
26	13.99	4.59	-.015	-.073	-.057	-.094	-.154	-.173	-.170	-.188	-.168	-.168	-.149	-.165	-.122	-.087	-.124	-.136	-.067	-.010	.172	.355	.422	.410	.473	.538	.629	.812	1.000	
27	14.31	4.98	.002	-.054	-.032	-.041	-.130	-.153	-.170	-.181	-.148	-.152	-.110	-.119	-.088	-.092	-.137	-.159	-.127	-.020	.162	.376	.404	.458	.462	.504	.568	.667	.802	1.000

TABLE III.10 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

OCTOBER

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 497

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	4.32	7.07	6.66	7.35	8.09	9.40	10.96	12.96	15.12	17.59	20.50	23.23	24.62	23.94	21.26	17.43	12.78	8.53	5.78	5.12	5.11	4.59	5.32	5.65	5.81	5.98	6.11	6.43
			2.50	3.85	4.15	4.52	5.06	5.79	6.71	7.87	9.05	10.41	11.51	12.48	12.67	11.91	11.12	9.40	7.33	5.37	3.98	3.05	2.74	2.57	2.76	2.92	3.11	3.20	3.31	3.50
SFC	4.32	2.50	1.000																											
1	7.07	3.85	.673	1.000																										
2	6.66	4.15	.416	.707	1.000																									
3	7.35	4.52	.205	.386	.735	1.000																								
4	8.09	5.06	.048	.224	.562	.839	1.000																							
5	9.40	5.79	-.026	.114	.422	.682	.869	1.000																						
6	10.96	6.71	-.075	.022	.309	.578	.777	.902	1.000																					
7	12.96	7.87	-.079	.014	.278	.519	.696	.815	.913	1.000																				
8	15.12	9.05	-.098	.013	.242	.460	.630	.732	.833	.920	1.000																			
9	17.59	10.41	-.047	.060	.236	.429	.581	.670	.771	.852	.934	1.000																		
10	20.50	11.51	-.001	.075	.222	.373	.491	.580	.682	.774	.861	.942	1.000																	
11	23.23	12.48	.028	.092	.209	.335	.431	.501	.600	.693	.784	.871	.942	1.000																
12	24.62	12.67	.054	.106	.206	.323	.407	.462	.547	.642	.734	.811	.879	.940	1.000															
13	23.94	11.91	.022	.092	.185	.289	.373	.418	.506	.587	.666	.723	.767	.822	.894	1.000														
14	21.26	11.12	.005	.093	.181	.290	.359	.411	.506	.577	.650	.701	.718	.746	.804	.888	1.000													
15	17.43	9.40	-.009	.089	.187	.300	.383	.443	.512	.567	.646	.697	.696	.712	.756	.817	.882	1.000												
16	12.78	7.33	.012	.101	.204	.334	.405	.432	.485	.538	.607	.662	.652	.661	.713	.758	.801	.880	1.000											
17	8.53	5.37	-.044	.065	.171	.335	.407	.441	.481	.523	.568	.604	.598	.614	.636	.683	.696	.764	.817	1.000										
18	5.78	3.98	-.053	-.021	.040	.212	.285	.307	.344	.393	.383	.422	.412	.428	.447	.470	.521	.550	.575	.644	1.000									
19	5.12	3.05	-.095	-.090	-.006	.099	.168	.198	.178	.152	.162	.169	.185	.190	.196	.159	.194	.250	.243	.320	.481	1.000								
20	5.11	2.74	-.035	-.135	-.043	.070	.108	.085	.074	.057	.051	.031	.022	.023	.016	.018	.012	.026	.063	.106	.189	.505	1.000							
21	4.99	2.57	-.034	-.102	.014	.055	.088	.080	.024	.010	-.045	-.095	-.087	-.097	-.098	-.116	-.101	-.135	-.137	-.077	.007	.285	.418	1.000						
22	5.32	2.76	-.008	-.084	-.058	-.026	-.014	-.059	-.087	-.081	-.104	-.113	-.100	-.108	-.103	-.116	-.135	-.142	-.145	-.113	-.024	.078	.208	.526	1.000					
23	5.65	2.92	.028	-.035	-.019	.001	.034	.017	.011	.036	.003	.015	-.007	-.017	-.060	-.112	-.103	-.122	-.138	-.106	-.022	.070	.228	.320	.571	1.000				
24	5.81	3.11	.005	-.047	-.056	-.032	-.016	-.035	-.038	-.037	-.061	-.069	-.076	-.087	-.106	-.128	-.122	-.156	-.147	-.129	-.053	.090	.246	.257	.424	.641	1.000			
25	5.98	3.20	-.009	-.033	-.043	.005	.000	-.009	-.008	-.013	-.033	-.037	-.061	-.065	-.075	-.094	-.095	-.109	-.092	-.050	-.029	.043	.170	.274	.386	.426	.695	1.000		
26	6.11	3.31	.051	.024	-.020	-.002	-.019	-.035	-.074	-.071	-.097	-.099	-.112	-.115	-.107	-.071	-.053	-.066	-.078	-.030	.004	.073	.109	.268	.334	.352	.498	.638	1.000	
27	6.43	3.50	.016	-.019	-.008	.034	.020	-.001	-.040	-.055	-.072	-.074	-.066	-.045	-.050	-.041	-.033	-.052	-.059	-.031	.064	.105	.089	.220	.269	.236	.344	.430	.688	1.000

TABLE III.11 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

NOVEMBER

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 480

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN		4.02	7.95	7.94	8.94	10.34	12.56	15.23	18.07	21.12	24.45	27.76	30.77	32.88	32.67	29.50	24.92	20.07	15.18	10.67	7.85	6.09	5.82	6.20	6.91	8.06	9.70	11.03	12.72
		SD	2.33	4.10	5.13	6.00	6.72	7.62	8.77	9.48	10.57	11.62	12.98	13.58	13.74	12.60	11.33	9.23	7.78	6.86	5.36	4.41	3.71	3.54	3.90	4.26	4.50	5.27	5.59	6.23
SFC	4.02	2.33	1.000																											
1	7.95	4.10	.464	1.000																										
2	7.94	5.13	.302	.699	1.000																									
3	8.94	6.00	.264	.517	.789	1.000																								
4	10.34	6.72	.243	.449	.657	.875	1.000																							
5	12.56	7.62	.237	.389	.634	.801	.924	1.000																						
6	15.23	8.77	.245	.387	.609	.761	.869	.937	1.000																					
7	18.07	9.48	.236	.331	.558	.713	.816	.885	.938	1.000																				
8	21.12	10.57	.251	.304	.502	.649	.756	.817	.866	.937	1.000																			
9	24.45	11.62	.250	.277	.468	.607	.698	.763	.816	.874	.930	1.000																		
10	27.76	12.98	.230	.255	.426	.553	.638	.707	.758	.818	.872	.939	1.000																	
11	30.77	13.58	.220	.237	.396	.513	.595	.660	.716	.770	.810	.886	.934	1.000																
12	32.88	13.74	.158	.221	.352	.476	.555	.623	.675	.724	.764	.837	.885	.941	1.000															
13	32.67	12.60	.191	.194	.312	.443	.516	.570	.618	.673	.713	.767	.812	.842	.904	1.000														
14	29.50	11.33	.157	.191	.281	.404	.485	.536	.601	.643	.668	.678	.708	.725	.770	.866	1.000													
15	24.92	9.23	.206	.177	.257	.391	.461	.508	.569	.559	.618	.616	.633	.620	.676	.759	.844	1.000												
16	20.07	7.78	.191	.065	.194	.324	.374	.436	.477	.508	.520	.533	.526	.501	.548	.638	.706	.821	1.000											
17	15.18	6.86	.182	.063	.138	.249	.288	.333	.374	.388	.398	.421	.411	.404	.448	.523	.576	.644	.775	1.000										
18	10.67	5.36	.150	.032	.090	.200	.221	.260	.295	.319	.335	.346	.344	.302	.330	.372	.453	.554	.668	.714	1.000									
19	7.85	4.41	.223	.088	.153	.243	.258	.262	.293	.282	.303	.351	.335	.295	.326	.343	.365	.425	.471	.541	.640	1.000								
20	6.09	3.71	.101	.027	.129	.178	.175	.187	.206	.211	.241	.261	.283	.260	.281	.292	.246	.249	.255	.304	.309	.562	1.000							
21	5.82	3.54	.025	-.035	.064	.059	.017	.030	.039	.054	.083	.101	.103	.121	.123	.148	.136	.156	.189	.198	.203	.348	.537	1.000						
22	6.20	3.90	-.026	-.081	-.039	-.028	-.029	.004	.032	.044	.058	.090	.104	.105	.123	.144	.131	.123	.113	.146	.152	.249	.404	.604	1.000					
23	6.91	4.26	-.092	-.137	-.062	.004	-.003	.028	.017	.033	.028	.046	.056	.066	.094	.113	.101	.108	.069	.139	.098	.159	.280	.476	.681	1.000				
24	8.06	4.50	-.053	-.052	-.031	-.026	-.029	.004	-.005	-.016	-.005	-.006	.003	.048	.076	.056	.031	.047	.013	.077	.034	.104	.176	.394	.489	.692	1.000			
25	9.70	5.27	-.106	-.109	-.069	-.070	-.072	-.044	-.048	-.071	-.072	-.071	-.071	-.050	-.020	-.041	-.059	-.015	-.027	-.006	-.024	.077	.203	.382	.475	.562	.713	1.000		
26	11.03	5.59	-.060	-.094	-.110	-.080	-.115	-.092	-.113	-.136	-.150	-.139	-.119	-.108	-.074	-.074	-.117	-.077	-.072	-.030	-.049	.020	.134	.341	.380	.511	.601	.819	1.000	
27	12.72	6.23	-.082	-.096	-.084	-.059	-.110	-.097	-.127	-.139	-.163	-.161	-.151	-.146	-.115	-.112	-.159	-.112	-.106	-.057	-.066	-.047	.078	.242	.310	.412	.501	.670	.846	1.000

TABLE III. 12 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}

SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS

USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

DECEMBER

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 496

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	SCALAR MEAN	3.99	8.11	8.75	10.81	13.89	17.08	20.13	23.55	27.17	31.16	34.85	37.35	39.35	39.32	37.12	33.47	28.76	24.01	18.74	14.11	10.92	9.79	9.35	10.37	12.11	14.14	15.73	17.09
			SD	2.29	4.41	5.75	6.96	8.03	9.02	9.83	10.78	12.27	13.77	15.23	15.65	15.62	14.74	13.23	11.75	9.93	8.52	7.37	6.91	6.69	6.31	5.50	5.82	6.65	7.25	7.94	7.90
SFC	3.99	2.29		1.000																										
1	8.11	4.41		.486	1.000																									
2	8.75	5.75		.362	.741	1.000																								
3	10.81	6.96		.378	.579	.849	1.000																							
4	13.89	8.03		.382	.511	.739	.896	1.000																						
5	17.08	9.02		.387	.498	.707	.846	.923	1.000																					
6	20.13	9.83		.363	.458	.663	.791	.854	.941	1.000																				
7	23.55	10.78		.310	.402	.621	.749	.816	.894	.944	1.000																			
8	27.17	12.27		.303	.376	.579	.709	.773	.839	.891	.948	1.000																		
9	31.16	13.77		.275	.336	.528	.671	.715	.768	.824	.878	.945	1.000																	
10	34.85	15.23		.240	.312	.497	.635	.665	.723	.781	.830	.896	.954	1.000																
11	37.35	15.65		.231	.282	.459	.594	.622	.674	.729	.777	.837	.886	.936	1.000															
12	39.35	15.62		.225	.295	.431	.558	.575	.627	.680	.711	.763	.810	.870	.927	1.000														
13	39.32	14.74		.260	.284	.421	.556	.601	.638	.681	.708	.746	.763	.806	.859	.910	1.000													
14	37.12	13.23		.262	.279	.424	.549	.597	.636	.671	.700	.734	.754	.782	.821	.848	.906	1.000												
15	33.47	11.75		.234	.272	.410	.541	.602	.636	.669	.693	.712	.713	.735	.771	.814	.839	.896	1.000											
16	28.76	9.93		.247	.233	.374	.482	.554	.584	.609	.620	.625	.618	.630	.671	.716	.763	.800	.856	1.000										
17	24.01	8.52		.260	.256	.349	.470	.532	.566	.571	.566	.554	.527	.541	.573	.625	.677	.711	.705	.819	1.000									
18	18.74	7.37		.216	.213	.255	.389	.454	.479	.478	.461	.446	.433	.435	.462	.507	.561	.580	.610	.647	.760	1.000								
19	14.11	6.91		.215	.181	.238	.337	.380	.406	.414	.417	.412	.419	.436	.449	.477	.500	.542	.555	.604	.618	.732	1.000							
20	10.92	6.69		.240	.136	.212	.322	.369	.359	.424	.411	.399	.398	.430	.454	.481	.487	.501	.511	.561	.566	.549	.687	1.000						
21	9.79	6.31		.162	.104	.153	.246	.290	.330	.360	.355	.354	.379	.411	.416	.415	.426	.445	.421	.468	.495	.482	.552	.690	1.000					
22	9.35	5.50		.058	.004	.037	.125	.152	.162	.203	.194	.187	.191	.233	.261	.274	.268	.318	.313	.346	.380	.377	.497	.483	.653	1.000				
23	-10.37	5.82		.027	-.066	-.037	.076	.116	.129	.159	.154	.148	.146	.177	.195	.220	.237	.247	.242	.257	.307	.319	.377	.428	.474	.652	1.000			
24	-12.11	6.65		.078	.016	.062	.159	.177	.201	.219	.211	.182	.184	.205	.206	.222	.255	.269	.260	.254	.304	.336	.368	.392	.458	.562	.761	1.000		
25	-14.14	7.25		.112	.018	.067	.159	.152	.173	.190	.175	.143	.128	.152	.150	.161	.184	.182	.168	.172	.220	.227	.259	.350	.408	.493	.587	.748	1.000	
26	-15.73	7.94		.020	-.042	-.037	.028	.031	.033	.032	.017	-.011	-.039	-.021	-.029	.000	.024	.020	.013	.020	.118	.118	.152	.273	.322	.426	.531	.626	.784	1.000	
27	-17.09	7.90		-.034	-.075	-.074	-.040	-.050	-.041	-.045	-.054	-.066	-.105	-.104	-.134	-.078	-.081	-.099	-.099	-.092	.021	.022	.058	.135	.228	.333	.465	.554	.641	.809	1.000

TABLE III. 13 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

WINTER

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1444

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km			SCALAR MEAN	4.41	8.65	10.12	12.78	15.84	19.22	22.65	26.19	29.81	33.68	37.37	40.71	42.96	42.64	40.24	35.91	30.83	25.35	19.20	13.84	10.17	8.81	8.42	8.76	9.50	10.51	11.74	12.90
			SD	2.36	4.86	6.18	7.45	8.44	9.58	10.50	11.71	13.02	14.44	15.77	16.92	16.65	15.19	13.47	11.83	10.05	8.79	7.71	7.22	6.39	5.90	5.68	5.84	6.33	6.91	7.89	8.47
SFC	4.41	2.36	1.000																											
1	8.65	4.86	.460	1.000																										
2	10.12	6.18	.368	.748	1.000																									
3	12.78	7.45	.354	.611	.868	1.000																								
4	15.84	8.44	.344	.563	.778	.908	1.000																							
5	19.22	9.58	.326	.526	.740	.848	.931	1.000																						
6	22.65	10.50	.304	.477	.695	.796	.872	.941	1.000																					
7	26.19	11.71	.273	.443	.658	.759	.831	.895	.944	1.000																				
8	29.81	13.02	.249	.400	.613	.717	.778	.841	.891	.944	1.000																			
9	33.68	14.44	.217	.370	.569	.678	.731	.785	.831	.881	.943	1.000																		
10	37.37	15.77	.176	.330	.514	.626	.672	.733	.775	.818	.880	.942	1.000																	
11	40.71	16.92	.171	.304	.480	.594	.635	.687	.727	.765	.824	.886	.938	1.000																
12	42.96	16.65	.147	.306	.466	.580	.616	.665	.703	.731	.779	.829	.880	.972	1.000															
13	42.64	15.19	.159	.285	.443	.560	.607	.649	.683	.712	.747	.773	.810	.841	.889	1.000														
14	40.24	13.47	.145	.246	.404	.523	.581	.621	.655	.684	.710	.736	.763	.782	.816	.866	1.000													
15	35.91	11.83	.137	.215	.372	.488	.546	.588	.620	.639	.655	.668	.701	.718	.769	.804	.860	1.000												
16	30.83	10.05	.128	.173	.334	.439	.503	.527	.548	.561	.572	.583	.609	.632	.689	.729	.752	.835	1.000											
17	25.35	8.79	.106	.157	.291	.396	.457	.492	.505	.513	.524	.517	.540	.560	.610	.657	.688	.710	.813	1.000										
18	19.20	7.71	.091	.147	.244	.341	.405	.439	.449	.454	.457	.449	.458	.470	.502	.546	.572	.565	.568	.720	1.000									
19	13.84	7.22	.112	.119	.209	.295	.337	.368	.383	.395	.391	.390	.400	.399	.428	.442	.482	.469	.513	.544	.661	1.000								
20	10.17	6.39	.095	.086	.189	.246	.287	.318	.321	.322	.320	.322	.348	.341	.362	.371	.417	.434	.467	.478	.462	.619	1.000							
21	8.81	5.90	.058	.060	.126	.172	.233	.244	.241	.256	.258	.275	.287	.288	.296	.313	.365	.350	.385	.404	.423	.440	.610	1.000						
22	8.42	5.68	-.008	-.003	.072	.126	.171	.171	.183	.186	.181	.187	.207	.219	.213	.227	.291	.267	.267	.306	.345	.440	.450	.639	1.000					
23	8.76	5.84	-.026	-.016	.030	.087	.125	.134	.139	.149	.150	.164	.176	.178	.172	.180	.210	.209	.205	.239	.290	.349	.406	.473	.658	1.000				
24	9.50	6.33	-.030	.001	.049	.091	.122	.127	.129	.131	.126	.129	.124	.116	.118	.133	.148	.149	.133	.171	.238	.267	.333	.436	.502	.725	1.000			
25	10.51	6.91	.002	.014	.023	.059	.082	.090	.085	.088	.086	.087	.085	.074	.070	.080	.102	.100	.080	.122	.178	.217	.296	.379	.465	.593	.787	1.000		
26	11.74	7.89	-.021	.021	.011	.035	.050	.050	.036	.046	.038	.042	.038	.029	.034	.040	.054	.062	.043	.095	.129	.159	.241	.316	.411	.555	.643	.791	1.000	
27	12.90	8.47	-.044	.022	.010	.020	.027	.026	.008	.024	.006	.012	-.002	-.018	.003	-.005	.005	.014	-.004	.042	.084	.131	.185	.270	.372	.500	.617	.706	.852	1.000

TABLE III. 14 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN 1, 1956 to NOV 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

SPRING

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1472

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km		SCALAR MEAN	4.45	7.66	8.46	10.24	12.42	14.70	17.27	20.01	22.90	26.09	29.54	33.32	36.22	36.97	34.13	29.47	24.30	18.94	13.44	8.96	7.01	6.35	6.36	6.53	6.93	7.32	7.66	7.95
		SD	2.23	4.47	5.47	6.89	8.19	9.59	10.83	12.19	13.53	15.34	16.85	18.04	18.61	17.51	15.14	12.89	11.15	9.90	8.00	6.14	4.77	3.72	3.94	4.06	4.29	4.67	4.92	5.26
SFC	4.45	2.23	1.000																											
1	7.66	4.47	.476	1.000																										
2	8.46	5.47	.340	.713	1.000																									
3	10.24	6.89	.320	.595	.839	1.000																								
4	12.42	8.19	.307	.561	.743	.898	1.000																							
5	14.70	9.59	.289	.530	.690	.827	.931	1.000																						
6	17.27	10.83	.275	.482	.640	.777	.871	.942	1.000																					
7	20.01	12.19	.260	.448	.599	.738	.831	.899	.952	1.000																				
8	22.90	13.53	.239	.406	.569	.709	.804	.872	.920	.958	1.000																			
9	26.09	15.34	.216	.369	.534	.675	.763	.831	.878	.913	.959	1.000																		
10	29.54	16.85	.204	.341	.496	.632	.724	.789	.833	.867	.916	.959	1.000																	
11	33.32	18.04	.176	.310	.457	.593	.680	.751	.796	.832	.879	.924	.956	1.000																
12	36.22	18.61	.171	.297	.426	.556	.639	.713	.759	.790	.838	.873	.910	.948	1.000															
13	36.97	17.51	.162	.304	.415	.528	.616	.687	.732	.761	.805	.833	.860	.890	.931	1.000														
14	34.13	15.34	.144	.293	.389	.504	.593	.662	.712	.738	.769	.789	.813	.830	.866	.903	1.000													
15	29.47	12.89	.144	.290	.397	.503	.584	.652	.699	.725	.752	.766	.773	.782	.804	.832	.880	1.000												
16	24.30	11.15	.175	.291	.386	.498	.569	.631	.677	.696	.716	.727	.733	.737	.758	.783	.806	.884	1.000											
17	18.94	9.90	.145	.276	.362	.457	.542	.602	.645	.660	.678	.680	.687	.687	.713	.720	.752	.784	.852	1.000										
18	13.44	8.00	.133	.257	.340	.418	.494	.556	.598	.597	.608	.606	.607	.609	.629	.619	.643	.669	.712	.811	1.000									
19	8.96	6.14	.128	.213	.299	.364	.408	.451	.483	.486	.485	.487	.476	.464	.468	.469	.460	.509	.559	.572	.705	1.000								
20	7.01	4.77	.124	.191	.273	.315	.326	.353	.368	.359	.365	.375	.354	.338	.340	.336	.300	.349	.374	.425	.453	.571	1.000							
21	6.35	3.72	.029	.110	.166	.191	.216	.223	.217	.219	.220	.225	.210	.197	.175	.146	.126	.137	.122	.159	.232	.289	.514	1.000						
22	6.36	3.94	.020	.099	.083	.068	.078	.084	.069	.070	.065	.050	.041	.023	.016	-.001	-.044	-.041	-.057	-.055	-.019	.052	.188	.512	1.000					
23	6.53	4.06	-.012	.043	.030	.021	.033	.023	.002	.001	-.008	-.022	-.029	-.036	-.046	-.060	-.097	-.123	-.137	-.138	-.117	-.062	.068	.351	.672	1.000				
24	6.93	4.29	-.022	.026	-.001	-.023	-.014	-.025	-.043	-.044	-.051	-.060	-.065	-.076	-.091	-.097	-.128	-.165	-.163	-.143	-.143	-.082	.043	.275	.533	.741	1.000			
25	7.32	4.67	-.036	.021	-.001	-.030	-.029	-.042	-.049	-.054	-.053	-.063	-.060	-.070	-.078	-.074	-.085	-.102	-.108	-.088	-.059	-.008	.037	.224	.425	.573	.745	1.000		
26	7.66	4.92	-.026	.003	-.023	-.035	-.027	-.036	-.037	-.036	-.038	-.039	-.042	-.060	-.072	-.080	-.085	-.108	-.103	-.095	-.076	-.019	.043	.223	.379	.508	.617	.785	1.000	
27	7.95	5.26	-.007	.026	.004	-.007	.003	-.004	-.002	-.008	-.006	-.009	-.017	-.042	-.052	-.066	-.069	-.094	-.072	-.051	-.034	-.008	.031	.193	.335	.452	.569	.663	.813	1.000

TABLE III. 15 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC. 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

SUMMER

SCALAR WIND CORRELATIONS

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1472

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	SCALAR MEAN	3.13	5.35	5.15	5.20	5.36	5.65	5.91	6.35	6.90	7.98	9.32	10.80	12.36	13.33	12.12	9.65	7.73	7.24	8.23	9.97	12.10	13.93	15.46	-16.61	17.51	18.37	18.92	19.54
			SD	1.87	3.00	3.12	3.08	3.33	3.41	3.65	3.83	4.12	4.76	5.56	6.34	7.27	7.54	6.85	5.57	4.05	3.29	3.22	3.57	4.15	4.27	4.12	4.17	4.37	4.63	4.88	5.26
SFC	3.13	1.87	1.000																											
1	5.35	3.00	.318	1.000																										
2	5.15	3.12	.199	.726	1.000																									
3	5.20	3.08	.129	.580	.779	1.000																								
4	5.36	3.33	.104	.455	.621	.782	1.000																							
5	5.65	3.41	.117	.384	.522	.635	.802	1.000																						
6	5.91	3.65	.093	.286	.413	.497	.626	.786	1.000																					
7	6.35	3.83	.106	.179	.298	.385	.502	.619	.793	1.000																				
8	6.90	4.12	.104	.091	.199	.282	.396	.480	.637	.804	1.000																			
9	7.98	4.76	.111	.029	.121	.176	.259	.339	.435	.644	.820	1.000																		
10	9.32	5.56	.116	.025	.093	.138	.219	.277	.436	.555	.695	.872	1.000																	
11	10.80	6.34	.108	.013	.061	.107	.177	.217	.353	.463	.603	.760	.885	1.000																
12	12.36	7.27	.118	.007	.049	.082	.143	.171	.304	.406	.535	.664	.781	.892	1.000															
13	13.33	7.54	.123	.009	.047	.078	.153	.172	.283	.375	.483	.600	.696	.771	.885	1.000														
14	12.12	6.85	.092	.039	.083	.108	.156	.155	.261	.353	.430	.527	.599	.633	.715	.843	1.000													
15	9.65	5.57	.088	.029	.057	.067	.097	.107	.213	.296	.366	.431	.479	.484	.552	.641	.784	1.000												
16	7.73	4.05	.072	.007	-.004	-.002	.023	.021	.104	.152	.204	.239	.260	.258	.297	.364	.482	.707	1.000											
17	7.24	3.29	.020	-.002	-.028	-.047	-.020	-.033	.037	-.001	.018	.030	.055	.055	.069	.118	.171	.296	.542	1.000										
18	8.23	3.22	-.046	-.086	-.119	-.133	-.131	-.111	-.099	-.103	-.072	-.068	-.045	-.018	-.049	-.032	-.018	.040	.221	.565	1.000									
19	9.97	3.57	-.132	-.013	-.061	-.097	-.112	-.106	-.118	-.152	-.139	-.141	-.113	-.101	-.133	-.132	-.099	-.098	.057	.363	.645	1.000								
20	12.10	4.15	-.200	-.004	-.023	-.032	-.059	-.081	-.082	-.134	-.121	-.132	-.088	-.085	-.108	-.093	-.086	-.093	.026	.280	.471	.763	1.000							
21	13.93	4.27	-.231	-.025	-.041	-.040	-.064	-.096	-.104	-.156	-.113	-.130	-.108	-.114	-.132	-.113	-.097	-.110	.004	.240	.407	.621	.800	1.000						
22	15.46	4.12	-.182	-.036	-.056	-.035	-.032	-.054	-.065	-.131	-.106	-.116	-.114	-.124	-.137	-.115	-.083	-.118	-.031	.215	.396	.541	.627	.777	1.000					
23	16.61	4.17	-.092	-.054	-.080	-.077	-.038	-.041	-.068	-.129	-.111	-.129	-.132	-.145	-.152	-.134	-.103	-.131	-.047	.193	.389	.481	.484	.563	.762	1.000				
24	17.51	4.37	-.037	-.020	-.063	-.062	-.022	-.035	-.070	-.121	-.121	-.131	-.127	-.138	-.146	-.128	-.109	-.147	-.076	.171	.365	.433	.410	.438	.576	.780	1.000			
25	18.37	4.63	.017	-.024	-.090	-.085	-.071	-.075	-.115	-.165	-.149	-.150	-.145	-.149	-.165	-.151	-.134	-.158	-.079	.182	.346	.403	.377	.391	.478	.610	.789	1.000		
26	18.92	4.88	.008	-.030	-.084	-.081	-.075	-.082	-.126	-.170	-.154	-.141	-.128	-.129	-.141	-.117	-.108	-.143	-.075	.157	.323	.373	.371	.400	.471	.555	.635	.798	1.000	
27	19.54	5.26	.017	-.040	-.085	-.077	-.080	-.073	-.122	-.168	-.166	-.160	-.155	-.137	-.155	-.135	-.138	-.171	-.106	.128	.307	.375	.376	.401	.460	.526	.549	.633	.788	1.000

TABLE III. 16 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

FALL
SCALAR WIND CORRELATIONS
CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO - ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1456

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km			SCALAR MEAN	.04	7.14	6.94	7.34	8.05	9.33	10.87	12.62	14.61	16.97	19.55	22.06	23.70	23.55	21.22	17.49	13.42	9.90	7.45	6.64	6.62	6.99	7.64	8.26	8.89	9.73	10.33	11.10
			SD	2.45	4.10	4.55	5.06	5.69	6.54	7.65	8.83	10.12	11.46	12.76	13.64	13.99	13.28	12.06	10.22	8.36	6.60	4.85	3.85	3.76	3.98	4.37	4.65	4.85	5.30	5.62	6.07
SFC	4.04	2.45	1.000																											
1	7.14	4.10	.590	1.000																										
2	6.94	4.55	.402	.748	1.000																									
3	7.34	5.06	.273	.525	.784	1.000																								
4	8.05	5.69	.172	.410	.653	.866	1.000																							
5	9.33	6.54	.135	.332	.559	.763	.905	1.000																						
6	10.87	7.65	.114	.287	.493	.693	.832	.925	1.000																					
7	12.62	8.83	.115	.252	.450	.643	.772	.864	.936	1.000																				
8	14.61	10.12	.112	.228	.401	.588	.713	.798	.869	.941	1.000																			
9	16.97	11.46	.133	.226	.376	.548	.662	.746	.820	.886	.945	1.000																		
10	19.55	12.76	.138	.218	.347	.503	.603	.688	.764	.833	.893	.953	1.000																	
11	22.06	13.64	.138	.209	.320	.459	.555	.633	.712	.782	.838	.904	.952	1.000																
12	23.70	13.99	.132	.201	.290	.427	.520	.598	.673	.741	.797	.859	.905	.953	1.000															
13	23.55	13.28	.116	.186	.265	.396	.484	.557	.632	.697	.750	.799	.838	.875	.930	1.000														
14	21.22	12.06	.103	.180	.250	.377	.467	.538	.622	.680	.724	.754	.777	.801	.846	.911	1.000													
15	17.49	10.22	.082	.168	.238	.373	.468	.545	.619	.669	.713	.736	.747	.755	.792	.840	.901	1.000												
16	13.42	8.36	.080	.134	.223	.361	.447	.526	.590	.637	.675	.699	.695	.692	.725	.767	.808	.887	1.000											
17	9.90	6.60	.033	.116	.188	.328	.407	.472	.527	.562	.587	.605	.596	.599	.624	.664	.695	.757	.842	1.000										
18	7.45	4.85	.001	.056	.107	.242	.295	.345	.389	.410	.424	.434	.426	.413	.432	.455	.510	.574	.635	.740	1.000									
19	6.64	3.85	-.008	.015	.078	.155	.181	.189	.194	.169	.170	.187	.185	.171	.191	.192	.223	.270	.318	.426	.599	1.000								
20	6.62	3.76	-.057	-.076	-.009	.009	-.009	-.038	-.059	-.086	-.095	-.103	-.100	-.111	-.100	-.093	-.096	-.087	-.056	.045	.208	.584	1.000							
21	6.99	3.98	-.091	-.116	-.056	-.091	-.138	-.174	-.214	-.246	-.265	-.283	-.287	-.287	-.283	-.277	-.267	-.265	-.234	-.123	.046	.370	.662	1.000						
22	7.64	4.37	-.087	-.116	-.096	-.128	-.173	-.211	-.244	-.275	-.293	-.296	-.294	-.300	-.294	-.288	-.267	-.292	-.277	-.173	-.005	.271	.538	.750	1.000					
23	8.26	4.65	-.106	-.132	-.104	-.122	-.158	-.188	-.230	-.251	-.277	-.277	-.282	-.285	-.281	-.280	-.274	-.277	-.264	-.160	-.018	.232	.501	.647	.793	1.000				
24	8.89	4.85	-.093	-.110	-.095	-.132	-.167	-.189	-.221	-.255	-.267	-.274	-.276	-.271	-.259	-.261	-.261	-.265	-.249	-.146	-.015	.230	.451	.600	.673	.801	1.000			
25	9.73	5.30	-.109	-.110	-.105	-.122	-.154	-.165	-.187	-.220	-.229	-.233	-.243	-.244	-.228	-.227	-.229	-.217	-.186	-.103	.023	.238	.434	.572	.633	.692	.817	1.000		
26	10.33	5.52	-.067	-.073	-.088	-.107	-.150	-.160	-.184	-.212	-.226	-.225	-.226	-.230	-.206	-.182	-.186	-.178	-.146	-.056	.063	.240	.389	.525	.567	.630	.713	.852	1.000	
27	11.10	6.07	-.074	-.061	-.052	-.054	-.103	-.110	-.135	-.155	-.167	-.168	-.167	-.166	-.145	-.130	-.139	-.127	-.095	-.005	.110	.238	.338	.460	.491	.537	.617	.731	.859	1.000

TABLE III. 17 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
PATRICK AFB, FLORIDA	7	28° 14' N	80° 36' W	JAN. 1, 1956 to NOV. 17, 1956
CAPE KENNEDY, FLORIDA	5	28° 29' N	80° 33' W	NOV. 18, 1956 to DEC 31, 1963

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

ANNUAL
SCALAR WIND CORRELATIONS

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

CAPE KENNEDY, FLORIDA

PREPARED FROM EIGHT YEARS, TWICE DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO - ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 5844

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	ALTITUDE (MSL) km / SCALAR MEAN	4.01	7.19	7.66	8.88	10.40	12.20	14.14	16.25	18.51	21.13	23.85	26.67	28.75	29.07	26.88	23.09	19.03	15.33	12.06	9.84	8.98	9.03	9.48	10.05	10.72	11.49	12.17	12.88
			SD	2.30	4.33	5.29	6.53	7.84	9.28	10.72	12.27	13.86	15.56	17.10	18.38	18.86	17.99	16.50	14.64	12.62	10.45	7.83	5.00	5.37	5.43	5.79	6.13	6.45	6.85	7.27	7.68
SFC	4.01	2.30		1.000																										
1	7.19	4.33		.905	1.000																									
2	7.66	5.29		.384	.755	1.000																								
3	8.88	6.53		.343	.416	.853	1.000																							
4	10.40	7.84		.318	.559	.762	.910	1.000																						
5	12.20	9.28		.305	.520	.712	.850	.941	1.000																					
6	14.14	10.72		.293	.479	.666	.804	.891	.953	1.000																				
7	16.25	12.27		.285	.449	.631	.770	.857	.917	.961	1.000																			
8	18.51	13.86		.275	.418	.599	.739	.825	.884	.928	.965	1.000																		
9	21.13	15.56		.267	.398	.569	.710	.791	.849	.893	.928	.966	1.000																	
10	23.89	17.10		.256	.378	.538	.675	.755	.814	.854	.893	.931	.968	1.000																
11	26.67	18.38		.250	.361	.512	.648	.725	.783	.829	.862	.900	.937	.966	1.000															
12	28.75	18.86		.244	.354	.492	.626	.702	.760	.805	.836	.872	.903	.932	.961	1.000														
13	29.07	17.99		.243	.346	.477	.606	.688	.743	.787	.818	.848	.871	.893	.915	.948	1.000													
14	26.88	16.50		.232	.336	.462	.593	.677	.731	.778	.807	.831	.847	.862	.876	.902	.935	1.000												
15	23.09	14.64		.227	.328	.457	.587	.671	.727	.772	.798	.818	.828	.838	.844	.867	.891	.930	1.000											
16	19.03	12.62		.228	.313	.443	.575	.659	.711	.752	.774	.790	.797	.801	.805	.826	.848	.874	.927	1.000										
17	15.33	10.45		.154	.295	.418	.547	.634	.686	.721	.736	.749	.748	.751	.753	.771	.791	.818	.849	.906	1.000									
18	12.06	7.83		.145	.245	.357	.478	.557	.606	.633	.640	.645	.641	.635	.637	.648	.660	.686	.712	.749	.838	1.000								
19	9.84	5.00		.067	.146	.244	.330	.373	.401	.410	.406	.400	.399	.394	.383	.387	.389	.405	.427	.478	.546	.697	1.000							
20	8.98	5.37		-.052	.006	.081	.111	.114	.114	.100	.081	.073	.070	.069	.056	.054	.045	.054	.069	.108	.194	.324	.615	1.000						
21	9.03	5.43		-.147	-.098	-.063	-.067	-.074	-.095	-.124	-.141	-.151	-.154	-.158	-.167	-.178	-.184	-.177	-.181	-.150	-.062	.104	.376	.697	1.000					
22	9.48	5.79		-.177	-.148	-.141	-.158	-.177	-.204	-.233	-.255	-.269	-.275	-.277	-.285	-.295	-.299	-.297	-.307	-.290	-.205	-.038	.266	.542	.774	1.000				
23	10.05	6.13		-.183	-.174	-.176	-.193	-.212	-.238	-.271	-.290	-.306	-.310	-.314	-.323	-.333	-.339	-.342	-.352	-.336	-.254	-.090	.196	.484	.671	.824	1.000			
24	10.72	6.45		-.173	-.161	-.168	-.194	-.214	-.240	-.273	-.294	-.310	-.315	-.322	-.333	-.341	-.344	-.350	-.361	-.345	-.260	-.101	.170	.445	.628	.730	.854	1.000		
25	11.49	6.85		-.158	-.151	-.171	-.194	-.217	-.238	-.268	-.288	-.300	-.305	-.311	-.323	-.331	-.334	-.335	-.340	-.324	-.241	-.085	.172	.425	.591	.684	.763	.867	1.000	
26	12.17	7.27		-.145	-.130	-.156	-.176	-.198	-.218	-.247	-.263	-.276	-.278	-.284	-.297	-.302	-.303	-.303	-.307	-.290	-.209	-.067	.167	.402	.558	.640	.717	.774	.871	1.000	
27	12.88	7.68		-.142	-.114	-.134	-.152	-.176	-.193	-.221	-.235	-.250	-.251	-.261	-.276	-.278	-.285	-.286	-.288	-.267	-.187	-.049	.170	.373	.522	.600	.668	.727	.789	.887	1.000

TABLE IV

Page

Interlevel and Intralevel Coefficients of Linear Correlation between Wind Components, Santa Monica, California

TABLE IV. 1 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

JANUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN		-1.01	-0.36	-1.31	-2.45	-2.85	-3.04	-3.22	-3.43	-3.52	-3.72	-3.89	-3.78	-3.21	-2.58	-1.95	-1.69	-1.62	-1.94	-2.21	-2.35	-2.39	-2.58	-2.73	-2.79	-2.72	-2.45	-2.44	-2.50	
			SD		2.49	3.92	5.46	7.55	9.28	10.82	12.06	13.59	15.45	17.11	17.96	17.98	16.53	14.46	12.43	10.49	8.80	7.59	6.86	4.91	4.01	3.84	3.78	3.77	3.93	4.65	5.34	6.02	
SFC	-0.15	2.42			.441	.206	.151	.186	.208	.200	.232	.218	.203	.192	.168	.142	.117	.106	.094	.105	.099	.081	.059	.050	-.002	.015	-.004	-.017	-.023	.021	.019	-.003
1	-0.17	3.94			.311	-.035	.707	.605	.601	.556	.564	.556	.529	.508	.469	.429	.394	.364	.346	.345	.354	.328	.289	.235	.142	.103	.099	.077	.017	.045	.047	.042
2	1.71	5.71			.095	.572	.120	.837	.782	.749	.736	.710	.681	.653	.612	.579	.546	.522	.515	.518	.509	.493	.436	.359	.234	.154	.117	.081	.026	.031	.033	.014
3	4.95	7.41			.089	.411	.842	.099	.906	.854	.824	.793	.770	.741	.711	.682	.647	.636	.617	.624	.615	.595	.518	.416	.290	.207	.167	.103	.048	.062	.065	.033
4	7.63	9.09			.090	.394	.787	.911	.169	.927	.888	.856	.827	.793	.759	.732	.691	.674	.645	.646	.630	.592	.523	.417	.286	.194	.148	.093	.035	.060	.064	.051
5	9.24	10.51			.089	.377	.734	.856	.931	.182	.945	.905	.877	.841	.800	.763	.722	.698	.665	.650	.636	.594	.522	.430	.291	.208	.171	.099	.042	.061	.053	.036
6	11.41	11.93			.070	.322	.668	.797	.873	.941	.189	.959	.923	.883	.833	.786	.740	.701	.659	.647	.619	.585	.536	.412	.274	.203	.150	.097	.046	.061	.052	.032
7	13.68	13.23			.062	.279	.608	.745	.828	.890	.949	.226	.964	.927	.874	.822	.771	.725	.673	.652	.615	.573	.502	.401	.267	.194	.150	.089	.036	.053	.042	.020
8	15.77	14.56			.062	.251	.563	.712	.797	.858	.907	.960	.268	.967	.918	.863	.803	.747	.690	.657	.619	.572	.491	.384	.261	.190	.140	.086	.041	.058	.044	.021
9	17.75	15.61			.060	.222	.557	.666	.755	.817	.859	.907	.958	.314	.960	.905	.834	.764	.713	.676	.625	.573	.488	.380	.257	.180	.129	.079	.038	.063	.050	.023
10	20.16	16.43			.068	.205	.518	.611	.705	.763	.811	.855	.902	.954	.317	.953	.884	.810	.756	.713	.657	.594	.503	.391	.268	.178	.121	.075	.031	.063	.058	.033
11	22.05	16.39			.074	.183	.479	.559	.645	.700	.758	.802	.843	.895	.948	.314	.944	.867	.814	.756	.701	.639	.543	.429	.302	.195	.136	.088	.042	.072	.069	.040
12	24.16	15.17			.071	.179	.440	.516	.599	.651	.702	.739	.776	.821	.873	.933	.295	.926	.876	.820	.757	.693	.595	.471	.362	.229	.162	.112	.057	.078	.076	.047
13	24.18	13.25			.070	.171	.440	.508	.583	.626	.664	.689	.717	.753	.793	.846	.918	.301	.935	.888	.828	.773	.676	.550	.445	.306	.224	.156	.087	.109	.112	.094
14	22.61	11.48			.077	.161	.436	.511	.586	.622	.645	.655	.672	.700	.716	.762	.822	.905	.302	.929	.865	.811	.717	.602	.502	.347	.272	.196	.112	.124	.121	.098
15	20.12	9.55			.077	.159	.419	.493	.542	.572	.594	.600	.612	.633	.653	.693	.765	.840	.913	.304	.932	.861	.778	.662	.554	.397	.322	.241	.146	.150	.145	.125
16	17.26	8.21			.072	.155	.401	.458	.496	.510	.527	.513	.518	.533	.550	.590	.671	.757	.814	.849	.305	.912	.812	.706	.589	.450	.376	.287	.185	.172	.160	.134
17	14.21	7.70			.085	.143	.387	.439	.454	.449	.454	.427	.425	.436	.449	.479	.553	.655	.717	.771	.883	.293	.878	.746	.647	.510	.428	.331	.223	.200	.188	.155
18	10.85	7.41			.112	.119	.348	.407	.408	.387	.390	.359	.352	.343	.346	.359	.415	.505	.585	.657	.750	.865	.275	.851	.688	.554	.485	.400	.297	.270	.241	.201
19	7.19	7.44			.077	.085	.261	.314	.298	.268	.272	.235	.224	.200	.191	.200	.255	.327	.419	.511	.618	.720	.875	.285	.793	.626	.536	.467	.372	.322	.286	.229
20	4.71	7.59			.055	.059	.221	.266	.236	.206	.209	.167	.157	.129	.112	.118	.171	.240	.322	.423	.542	.655	.781	.905	.296	.776	.623	.535	.440	.385	.352	.311
21	3.10	8.34			.048	.083	.217	.254	.225	.204	.202	.160	.151	.118	.099	.102	.153	.224	.303	.385	.500	.622	.754	.847	.928	.282	.810	.659	.515	.446	.411	.369
22	2.16	9.29			.045	.066	.199	.239	.213	.190	.191	.149	.141	.108	.085	.089	.138	.202	.274	.346	.454	.577	.710	.797	.872	.949	.248	.806	.593	.509	.478	.446
23	1.79	10.30			.039	.038	.161	.199	.172	.143	.140	.097	.090	.064	.047	.047	.092	.153	.226	.295	.401	.522	.664	.770	.845	.900	.953	.272	.786	.637	.591	.546
24	1.91	11.33			.037	.042	.141	.182	.153	.124	.121	.085	.078	.046	.030	.031	.074	.130	.203	.269	.362	.484	.625	.738	.806	.870	.916	.965	.331	.837	.720	.669
25	2.34	12.57			.038	.039	.127	.166	.137	.109	.106	.075	.071	.041	.028	.026	.073	.130	.197	.248	.342	.462	.605	.709	.779	.845	.891	.934	.974	.422	.874	.781
26	2.91	13.99			.030	.034	.119	.152	.124	.100	.099	.071	.069	.041	.026	.021	.068	.117	.178	.228	.321	.435	.565	.674	.746	.810	.858	.898	.934	.973	.438	.915
27	3.60	15.08			.028	.040	.112	.142	.116	.093	.090	.066	.065	.037	.018	.012	.058	.096	.149	.199	.289	.399	.526	.630	.700	.768	.821	.860	.897	.939	.978	.459

TABLE IV. 2 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

FEBRUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1020

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.32	-0.84	-1.78	-3.08	-3.33	-3.79	-4.06	-4.24	-4.67	-4.86	-5.19	-5.33	-4.89	-4.14	-3.46	-2.91	-2.67	-2.34	-2.15	-2.04	-1.99	-1.81	-1.61	-1.41	-1.27	-1.38	-1.50	-1.40
			SD	3.30	4.47	6.41	8.32	9.99	11.43	12.64	14.33	16.03	17.15	18.14	18.21	16.59	14.71	12.74	10.61	9.05	7.65	6.29	5.18	4.52	4.33	4.03	3.87	3.86	4.06	4.37	5.11
SFC	0.44	2.57		.386	.289	.152	.170	.195	.185	.164	.166	.144	.137	.112	.078	.064	.039	.019	.021	.036	.035	.037	.024	.033	.018	-.005	.013	-.001	-.014	.004	.029
1	0.6	3.58		.321	.081	.764	.686	.661	.636	.614	.595	.564	.529	.486	.438	.403	.357	.359	.365	.383	.385	.379	.326	.286	.220	.178	.121	.075	-.008	.004	.025
2	2.6	5.51		.056	.574	.174	.871	.810	.769	.743	.711	.673	.640	.593	.545	.495	.451	.448	.456	.465	.469	.462	.375	.331	.246	.194	.117	.066	-.011	-.001	.016
3	3.30	6.90		.058	.392	.809	.173	.925	.884	.850	.815	.776	.743	.688	.633	.576	.522	.518	.526	.533	.526	.514	.429	.367	.256	.195	.126	.073	-.016	.003	.009
4	8.66	8.16		.085	.374	.713	.884	.208	.949	.906	.866	.826	.789	.734	.672	.616	.563	.556	.561	.571	.567	.550	.459	.392	.283	.211	.134	.091	.008	.028	.025
5	11.1	9.33		.114	.369	.664	.820	.910	.214	.955	.915	.875	.839	.782	.719	.665	.613	.600	.610	.603	.599	.578	.472	.387	.268	.193	.129	.091	.028	.057	.052
6	13.3	11.37		.118	.353	.616	.774	.849	.927	.227	.959	.918	.879	.820	.760	.703	.656	.637	.627	.626	.621	.591	.480	.387	.273	.204	.143	.104	.040	.071	.077
7	15.9	12.57		.139	.332	.570	.719	.798	.867	.946	.228	.967	.927	.870	.811	.749	.704	.677	.666	.660	.652	.604	.493	.394	.274	.207	.152	.109	.044	.071	.077
8	18.4	14.28		.146	.305	.533	.677	.743	.809	.891	.951	.236	.965	.908	.851	.788	.740	.706	.695	.684	.669	.616	.503	.398	.272	.202	.153	.111	.049	.079	.074
9	21.4	15.52		.132	.264	.494	.635	.690	.755	.838	.894	.954	.257	.954	.897	.834	.782	.746	.732	.709	.687	.634	.517	.401	.280	.205	.152	.101	.043	.080	.069
10	24.2	16.59		.113	.251	.445	.569	.621	.681	.762	.813	.874	.944	.264	.952	.895	.837	.793	.777	.735	.711	.649	.525	.394	.267	.202	.147	.098	.044	.078	.063
11	27.66	16.89		.084	.196	.393	.503	.546	.602	.681	.727	.782	.854	.937	.231	.948	.888	.831	.814	.758	.733	.667	.538	.407	.284	.223	.169	.117	.061	.095	.085
12	29.9	15.19		.071	.155	.360	.483	.521	.568	.633	.665	.714	.772	.842	.928	.173	.945	.884	.851	.805	.768	.691	.563	.432	.305	.244	.190	.141	.090	.121	.106
13	29.1	12.51		.069	.145	.375	.488	.517	.568	.614	.632	.668	.712	.754	.818	.899	.113	.937	.898	.852	.812	.736	.610	.476	.343	.277	.213	.162	.114	.136	.121
14	27.44	10.93		.105	.175	.394	.497	.523	.554	.584	.589	.618	.640	.660	.706	.779	.894	.981	.939	.887	.850	.775	.656	.529	.394	.331	.258	.196	.127	.157	.135
15	24.7	9.29		.113	.193	.399	.498	.512	.534	.562	.569	.594	.612	.615	.643	.715	.827	.905	.1.1	.935	.883	.822	.711	.591	.445	.385	.318	.253	.173	.195	.166
16	20.78	7.94		.123	.203	.385	.474	.484	.503	.512	.509	.525	.546	.548	.569	.633	.743	.863	.888	.130	.925	.850	.750	.643	.500	.440	.353	.293	.201	.197	.163
17	16.90	7.32		.129	.189	.374	.461	.470	.475	.474	.464	.468	.480	.492	.511	.562	.658	.712	.731	.669	.120	.895	.780	.668	.525	.467	.369	.337	.229	.226	.183
18	12.46	6.25		.126	.172	.336	.395	.415	.411	.413	.405	.400	.407	.404	.413	.445	.525	.573	.624	.711	.838	.137	.862	.727	.565	.518	.434	.359	.237	.237	.192
19	8.2	5.91		.123	.151	.304	.354	.360	.362	.357	.355	.346	.347	.338	.337	.358	.414	.442	.441	.568	.545	.835	.174	.842	.645	.601	.494	.424	.295	.266	.208
20	5.47	6.32		.126	.135	.257	.296	.294	.306	.305	.301	.283	.263	.236	.224	.231	.279	.304	.341	.434	.518	.690	.853	.162	.793	.688	.576	.508	.370	.314	.244
21	2.70	6.82		.093	.113	.230	.221	.219	.232	.214	.212	.195	.165	.125	.127	.134	.180	.203	.235	.327	.391	.564	.708	.866	.154	.835	.641	.555	.422	.379	.294
22	1.6	7.30		.075	.095	.167	.178	.189	.209	.174	.187	.161	.122	.081	.085	.090	.138	.158	.177	.269	.333	.500	.655	.785	.920	.224	.803	.640	.479	.443	.368
23	0.17	7.84		.063	.086	.147	.152	.173	.194	.193	.181	.153	.114	.061	.054	.064	.113	.126	.146	.238	.302	.470	.622	.754	.852	.933	.278	.771	.551	.508	.445
24	-0.46	8.55		.097	.077	.115	.124	.146	.166	.164	.161	.132	.095	.038	.030	.042	.101	.109	.121	.216	.284	.452	.601	.726	.813	.871	.941	.326	.782	.653	.561
25	-0.6	9.54		.094	.077	.113	.105	.127	.144	.143	.139	.115	.084	.022	.016	.034	.098	.114	.137	.223	.285	.449	.561	.690	.781	.830	.884	.956	.372	.849	.680
26	-0.7	10.76		.087	.069	.099	.085	.107	.123	.121	.113	.087	.056	.001	-.004	.021	.097	.126	.151	.244	.306	.447	.561	.655	.746	.792	.835	.897	.957	.450	.850
27	-0.79	12.32		.094	.055	.094	.076	.094	.113	.117	.106	.078	.044	-.004	-.005	.018	.084	.117	.146	.236	.302	.435	.536	.625	.708	.751	.791	.845	.902	.965	.434

TABLE IV.3 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

MARCH

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL SD	2.56	4.19	5.58	7.53	8.91	10.33	11.61	12.86	14.19	15.09	15.50	15.39	13.66	11.65	9.91	8.27	6.99	5.71	4.77	4.09	3.43	3.02	3.06	3.10	3.11	3.13	3.35	3.59
SFC	0.95	2.93		.452	.325	.191	.203	.234	.241	.244	.236	.237	.228	.226	.208	.206	.194	.195	.199	.170	.151	.125	.118	.097	.016	-.061	-.038	.003	.032	.052	.046
1	0.73	3.53		.333	-.120	.718	.649	.617	.594	.574	.548	.521	.502	.486	.453	.439	.434	.438	.427	.417	.377	.349	.352	.286	.203	.142	.110	.083	.059	.068	.059
2	2.63	5.18		.034	.465	-.033	.843	.790	.749	.722	.685	.646	.617	.585	.552	.556	.565	.559	.539	.537	.486	.480	.424	.309	.205	.126	.084	.057	.020	.016	.023
3	5.81	7.31		.100	.353	.820	-.034	.899	.840	.802	.761	.718	.691	.657	.620	.613	.608	.604	.593	.582	.543	.508	.452	.341	.242	.143	.085	.053	.027	.017	.024
4	8.10	8.48		.110	.351	.741	.901	-.009	.936	.897	.853	.813	.787	.754	.714	.699	.690	.670	.655	.632	.575	.530	.473	.346	.210	.124	.053	.027	.022	.026	.034
5	11.29	9.70		.124	.352	.687	.838	.926	.021	.947	.907	.875	.847	.810	.763	.735	.715	.687	.672	.636	.576	.517	.464	.326	.180	.100	.039	.013	.016	.018	.017
6	13.76	10.30		.138	.344	.631	.783	.857	.939	.036	.955	.916	.885	.846	.796	.761	.738	.708	.685	.637	.576	.514	.452	.314	.166	.095	.031	.006	.010	.006	.004
7	15.98	12.33		.129	.343	.594	.731	.811	.888	.949	.982	.961	.921	.880	.823	.780	.746	.709	.686	.636	.567	.497	.432	.292	.146	.093	.034	.014	.025	.008	.013
8	18.33	13.34		.121	.319	.547	.678	.757	.832	.891	.953	.120	.965	.920	.861	.804	.759	.716	.694	.639	.567	.488	.417	.287	.139	.081	.024	.008	.022	.009	-.003
9	20.98	14.24		.093	.288	.506	.626	.699	.773	.826	.890	.949	.179	.959	.896	.837	.782	.737	.706	.649	.578	.491	.410	.280	.135	.078	.007	-.008	.002	-.010	-.005
10	23.96	15.45		.082	.267	.453	.550	.617	.690	.738	.803	.863	.936	.213	.949	.886	.825	.768	.738	.676	.598	.534	.414	.279	.124	.063	-.003	-.015	-.009	-.023	-.028
11	27.18	16.39		.047	.220	.393	.477	.537	.603	.636	.699	.756	.837	.935	.231	.940	.866	.808	.780	.721	.638	.528	.427	.291	.136	.079	-.001	-.023	-.017	-.017	-.020
12	28.48	14.21		.037	.181	.346	.428	.482	.536	.560	.622	.672	.753	.854	.937	.216	.932	.871	.842	.789	.710	.602	.495	.333	.165	.094	.020	-.018	-.018	-.020	-.027
13	27.95	11.87		.030	.167	.347	.438	.479	.516	.538	.589	.633	.700	.780	.852	.915	.202	.922	.892	.842	.772	.673	.556	.378	.190	.115	.028	-.012	-.022	-.018	-.011
14	25.44	10.38		.023	.148	.362	.446	.482	.506	.522	.562	.588	.637	.692	.743	.804	.901	.198	.923	.868	.809	.723	.605	.426	.247	.166	.056	.016	.014	.007	.004
15	23.10	9.36		.038	.156	.350	.451	.488	.508	.520	.551	.571	.609	.642	.684	.744	.838	.923	.222	.916	.844	.762	.652	.501	.310	.199	.088	.043	.043	.014	.010
16	19.97	7.34		.035	.139	.343	.432	.462	.477	.487	.519	.527	.559	.585	.625	.687	.781	.861	.924	.205	.938	.795	.680	.538	.357	.227	.113	.079	.073	.031	.021
17	16.29	7.11		.030	.133	.340	.429	.445	.456	.463	.485	.479	.502	.515	.552	.610	.713	.795	.836	.894	.205	.882	.744	.591	.431	.282	.177	.150	.113	.066	.046
18	12.34	6.37		.048	.118	.316	.397	.410	.421	.424	.444	.434	.453	.460	.483	.521	.624	.700	.741	.779	.884	.177	.847	.664	.499	.358	.258	.227	.175	.123	.089
19	8.68	5.94		.033	.118	.306	.369	.377	.383	.383	.401	.389	.405	.412	.427	.457	.545	.627	.677	.716	.782	.884	.168	.777	.550	.422	.342	.293	.234	.173	.140
20	5.33	5.70	-.002	.095	.291	.343	.345	.350	.348	.362	.349	.357	.354	.367	.387	.465	.554	.632	.647	.710	.773	.881	.186	.741	.499	.445	.363	.289	.229	.195	
21	3.19	5.58	.026	.109	.292	.342	.333	.345	.352	.350	.332	.335	.327	.326	.337	.413	.497	.540	.583	.549	.701	.757	.861	.140	.740	.579	.482	.376	.298	.246	
22	1.94	5.58	.026	.099	.275	.313	.298	.320	.333	.335	.322	.321	.299	.283	.287	.355	.430	.472	.506	.572	.637	.692	.756	.876	.151	.760	.557	.444	.361	.314	
23	1.31	6.30	.021	.085	.262	.299	.288	.312	.328	.338	.327	.325	.290	.271	.258	.316	.378	.413	.444	.514	.570	.623	.685	.774	.893	.188	.759	.546	.449	.379	
24	0.92	7.24	.047	.093	.230	.264	.251	.275	.296	.305	.299	.298	.258	.235	.209	.257	.312	.338	.369	.436	.496	.559	.619	.701	.836	.928	.235	.762	.588	.483	
25	0.40	8.27	.048	.072	.190	.224	.210	.237	.258	.267	.266	.268	.235	.210	.184	.227	.284	.313	.333	.389	.445	.507	.573	.669	.758	.857	.943	.237	.767	.592	
26	1.24	9.58	.058	.055	.158	.188	.174	.199	.227	.234	.230	.229	.194	.165	.142	.184	.239	.259	.286	.336	.394	.456	.532	.643	.733	.812	.881	.953	.212	.815	
27	1.87	10.87	.054	.060	.164	.188	.176	.206	.236	.245	.242	.239	.198	.156	.127	.171	.226	.246	.270	.316	.376	.431	.51	.622	.718	.796	.862	.917	.969	.187	

TABLE IV.4 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

APRIL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.02	-0.96	-1.11	-1.78	-2.09	-2.39	-2.43	-2.56	-2.56	-2.58	-2.25	-2.06	-1.41	-0.25	0.36	0.56	0.50	0.55	0.51	0.39	0.19	0.07	0.06	0.00	0.02	0.10	0.24	0.27
			SD	2.35	3.95	4.49	6.71	8.23	9.75	11.37	12.59	14.36	15.69	16.47	16.57	15.45	13.58	11.67	10.[illegible]	8.49	7.14	6.06	5.05	4.12	3.46	3.22	3.21	3.20	3.30	3.51	3.78
SFC	1.48	2.37		.432	.386	.217	.227	.214	.190	.189	.174	.176	.169	.161	.159	.147	.130	.142	.142	.126	.088	.090	.070	.081	.091	.066	.048	.040	.043	.029	.039
1	1.50	3.23		.311	.087	.643	.571	.558	.566	.546	.515	.516	.508	.492	.479	.459	.439	.431	.424	.419	.363	.356	.354	.340	.276	.194	.168	.164	.106	.097	.075
2	2.81	4.95		.060	.376	.172	.807	.755	.709	.665	.656	.632	.625	.599	.573	.538	.521	.522	.514	.501	.445	.386	.358	.353	.278	.196	.143	.103	.060	.048	.055
3	4.27	6.90		.078	.236	.784	.104	.842	.842	.789	.756	.742	.711	.683	.657	.624	.595	.585	.582	.566	.521	.463	.412	.396	.323	.237	.189	.141	.101	.086	.049
4	7.10	8.15		.133	.270	.697	.894	.145	.926	.884	.843	.824	.795	.756	.729	.702	.681	.670	.668	.632	.581	.517	.457	.415	.331	.242	.212	.170	.130	.117	.106
5	10.11	9.27		.164	.286	.643	.829	.923	.182	.956	.900	.876	.846	.815	.787	.758	.733	.716	.710	.673	.521	.557	.491	.434	.356	.283	.233	.181	.139	.132	.116
6	12.36	10.52		.176	.304	.626	.771	.863	.937	.214	.954	.932	.902	.867	.834	.804	.773	.746	.737	.699	.645	.581	.514	.455	.359	.286	.236	.178	.147	.140	.123
7	14.59	12.04		.171	.324	.587	.740	.827	.889	.933	.248	.961	.928	.888	.851	.813	.775	.742	.734	.695	.547	.578	.518	.453	.362	.285	.233	.174	.163	.150	.122
8	16.85	13.16		.147	.295	.542	.697	.784	.845	.916	.961	.331	.974	.934	.893	.853	.812	.767	.754	.715	.669	.595	.533	.471	.377	.288	.238	.179	.163	.142	.115
9	18.97	13.82		.128	.266	.519	.656	.748	.805	.861	.913	.961	.327	.987	.926	.883	.838	.793	.775	.735	.567	.613	.548	.478	.383	.288	.228	.174	.165	.134	.112
10	21.04	14.38		.108	.229	.496	.634	.717	.769	.819	.868	.916	.958	.370	.967	.925	.871	.825	.827	.761	.712	.642	.578	.494	.394	.293	.223	.181	.158	.123	.115
11	23.04	14.15		.095	.197	.461	.598	.677	.731	.773	.822	.869	.905	.954	.380	.964	.909	.861	.841	.793	.740	.672	.592	.506	.402	.306	.236	.198	.165	.126	.123
12	24.97	12.95		.097	.167	.446	.584	.657	.707	.743	.787	.826	.859	.905	.949	.954	.947	.902	.882	.836	.784	.722	.649	.551	.427	.313	.245	.194	.154	.119	.118
13	24.83	10.99		.081	.164	.426	.581	.640	.686	.713	.739	.760	.783	.819	.850	.907	.950	.947	.924	.884	.833	.767	.697	.599	.452	.319	.238	.176	.138	.108	.098
14	22.44	9.03		.062	.154	.410	.556	.611	.642	.664	.682	.686	.697	.722	.753	.803	.884	.296	.933	.912	.859	.794	.711	.596	.450	.314	.221	.147	.106	.075	.065
15	20.46	7.51		.070	.146	.397	.533	.588	.617	.640	.649	.644	.635	.650	.675	.716	.793	.888	.285	.953	.889	.821	.742	.626	.473	.327	.231	.153	.111	.079	.064
16	17.74	6.76		.094	.122	.374	.501	.542	.567	.578	.583	.581	.565	.579	.598	.624	.693	.780	.878	.262	.319	.843	.761	.651	.499	.349	.242	.176	.126	.092	.074
17	14.32	6.11		.052	.079	.333	.458	.480	.490	.491	.479	.473	.457	.471	.479	.496	.562	.657	.767	.861	.275	.899	.796	.681	.521	.372	.262	.174	.133	.096	.068
18	10.87	5.72		.054	.113	.327	.431	.450	.456	.452	.433	.422	.399	.408	.415	.424	.508	.587	.664	.727	.821	.280	.885	.729	.557	.407	.300	.228	.179	.123	.099
19	7.99	5.31		.044	.126	.341	.439	.435	.433	.421	.404	.385	.358	.366	.375	.381	.457	.525	.585	.644	.592	.855	.285	.838	.618	.440	.332	.254	.188	.156	.133
20	4.83	4.86		.068	.142	.363	.419	.405	.403	.400	.390	.374	.347	.346	.350	.344	.419	.482	.539	.581	.505	.713	.848	.303	.754	.491	.360	.285	.224	.188	.155
21	1.95	4.56		.102	.122	.349	.401	.385	.387	.380	.374	.364	.346	.347	.348	.340	.409	.445	.510	.528	.542	.624	.667	.809	.245	.721	.477	.375	.336	.261	.198
22	0.78	4.59		.088	.072	.300	.362	.339	.353	.330	.321	.317	.295	.304	.304	.313	.370	.397	.432	.466	.502	.527	.560	.600	.797	.246	.728	.511	.441	.377	.325
23	0.11	4.74		.086	.045	.230	.330	.360	.309	.288	.280	.277	.259	.265	.265	.280	.323	.350	.393	.411	.437	.454	.481	.498	.624	.832	.283	.726	.557	.507	.448
24	0.21	4.99		.095	.020	.190	.247	.235	.237	.212	.207	.199	.181	.191	.198	.218	.250	.259	.311	.321	.334	.357	.382	.401	.500	.639	.811	.333	.784	.614	.534
25	0.70	5.34		.066	.024	.175	.201	.187	.182	.158	.152	.139	.122	.123	.125	.147	.188	.197	.241	.233	.239	.269	.288	.318	.424	.534	.667	.869	.326	.795	.609
26	1.74	5.83		.073	.012	.173	.204	.187	.183	.165	.156	.136	.123	.125	.124	.141	.174	.193	.239	.217	.200	.219	.240	.256	.365	.480	.603	.738	.885	.314	.819
27	2.91	6.35		.062	-.001	.170	.208	.193	.181	.155	.142	.123	.098	.101	.093	.110	.141	.165	.216	.193	.173	.190	.204	.207	.308	.425	.546	.656	.755	.866	.316

TABLE IV.5 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

MAY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
					1.01	-0.28	-0.22	0.46	0.83	1.24	1.57	1.88	2.16	2.64	2.86	3.39	3.84	4.47	4.42	4.30	3.93	3.33	2.40	1.33	0.56	0.27	0.13	0.03	-0.13	-0.20	-0.19	-0.29
					1.82	2.97	4.35	6.11	7.93	9.43	10.00	12.28	13.52	14.51	15.15	15.25	13.82	11.87	9.99	8.28	6.70	5.30	4.18	3.32	2.85	2.33	2.32	2.28	2.41	2.47	2.70	2.85
SFC	1.94	2.00			.579	.224	.033	-.008	-.033	-.030	-.037	-.049	-.046	-.050	-.042	-.036	-.054	-.063	-.050	-.061	-.060	-.039	-.009	-.004	-.020	-.025	-.014	.045	.032	.056	.055	.015
1	0.61	2.76			.267	-.112	.445	.445	.408	.376	.355	.351	.349	.352	.330	.328	.334	.322	.326	.294	.272	.256	.229	.189	.117	.086	.107	.139	.064	.099	.149	.144
2	2.61	4.39			-.046	.307	-.147	.806	.725	.691	.665	.644	.628	.604	.566	.549	.534	.520	.510	.484	.421	.338	.237	.144	.053	.004	.002	.004	-.016	.011	.101	.116
3	4.67	6.22			.055	.227	.787	-.071	.902	.845	.808	.780	.750	.720	.677	.661	.639	.632	.630	.612	.550	.452	.333	.176	.090	.036	.034	.043	.034	.048	.128	.158
4	7.21	7.26			.088	.263	.688	.885	.039	.940	.896	.862	.829	.798	.758	.745	.723	.704	.701	.688	.633	.538	.403	.213	.121	.052	.031	.045	.035	.058	.137	.165
5	9.43	7.93			.117	.247	.621	.809	.918	.038	.957	.920	.887	.857	.822	.806	.782	.756	.748	.731	.672	.573	.428	.234	.131	.058	.043	.039	.038	.058	.142	.169
6	11.57	8.00			.131	.245	.559	.741	.841	.930	.005	.964	.929	.898	.860	.841	.813	.782	.768	.744	.681	.578	.427	.231	.140	.070	.040	.053	.051	.067	.152	.172
7	13.61	10.09			.124	.237	.511	.692	.792	.880	.941	.028	.969	.936	.902	.878	.842	.805	.777	.747	.686	.582	.439	.242	.160	.078	.044	.058	.047	.065	.144	.164
8	15.74	10.97			.127	.216	.477	.657	.751	.841	.902	.956	.054	.968	.934	.906	.865	.820	.787	.754	.683	.580	.444	.247	.175	.081	.042	.063	.037	.097	.141	.159
9	17.97	11.61			.099	.203	.460	.623	.712	.794	.850	.908	.955	.106	.971	.943	.899	.847	.809	.766	.694	.595	.458	.258	.186	.093	.048	.062	.033	.057	.143	.169
10	20.33	12.00			.097	.177	.423	.588	.674	.750	.802	.859	.903	.953	.162	.971	.926	.869	.826	.781	.708	.606	.470	.269	.198	.100	.049	.070	.039	.069	.140	.171
11	22.48	12.11			.082	.167	.427	.574	.644	.710	.758	.806	.846	.900	.943	.170	.958	.905	.853	.806	.729	.626	.489	.283	.204	.093	.046	.064	.029	.064	.133	.173
12	23.41	11.34			.067	.168	.392	.520	.588	.649	.682	.726	.760	.811	.860	.925	.174	.947	.892	.839	.762	.665	.515	.294	.204	.091	.052	.074	.028	.069	.137	.169
13	23.04	10.10			.028	.169	.345	.472	.546	.595	.612	.648	.673	.718	.757	.807	.901	.180	.934	.883	.813	.715	.564	.320	.217	.095	.060	.076	.037	.073	.138	.165
14	20.91	8.55			.029	.185	.353	.487	.553	.599	.607	.631	.639	.661	.691	.726	.794	.883	.126	.939	.871	.776	.636	.382	.268	.136	.097	.095	.045	.078	.143	.156
15	17.77	7.19			.022	.190	.350	.476	.539	.580	.581	.593	.597	.612	.630	.653	.701	.773	.886	.098	.937	.827	.674	.422	.302	.169	.097	.093	.049	.074	.140	.145
16	14.13	6.32			.017	.196	.332	.448	.500	.542	.528	.548	.543	.540	.555	.569	.595	.651	.756	.878	.066	.900	.727	.482	.350	.212	.146	.129	.081	.087	.142	.147
17	10.26	5.66			.045	.151	.277	.376	.409	.449	.433	.451	.458	.456	.472	.473	.486	.524	.632	.731	.854	.063	.828	.558	.393	.250	.190	.162	.105	.108	.167	.166
18	6.03	4.90			.061	.159	.252	.340	.366	.399	.382	.387	.398	.401	.406	.406	.416	.451	.537	.637	.698	.833	.057	.715	.467	.315	.245	.222	.155	.124	.151	.152
19	2.37	4.34			.103	.183	.265	.321	.323	.361	.342	.337	.343	.337	.335	.339	.345	.363	.429	.498	.564	.634	.772	-.010	.673	.449	.309	.262	.188	.192	.210	.198
20	-0.35	3.92			.088	.184	.242	.277	.264	.268	.254	.243	.237	.216	.203	.205	.189	.175	.231	.272	.336	.397	.490	.679	.028	.606	.369	.286	.199	.183	.191	.219
21	-1.72	3.67			.095	.158	.246	.291	.290	.297	.279	.266	.252	.233	.214	.219	.178	.148	.192	.239	.299	.364	.443	.557	.779	.082	.601	.368	.259	.256	.221	.263
22	-2.60	3.53			.076	.141	.217	.253	.259	.259	.246	.246	.223	.201	.186	.175	.138	.100	.143	.195	.250	.332	.399	.492	.622	.781	.049	.609	.261	.240	.228	.222
23	-3.02	3.90			.074	.140	.171	.207	.218	.213	.203	.205	.185	.158	.147	.134	.111	.076	.114	.162	.231	.285	.335	.424	.528	.588	.794	.075	.609	.356	.278	.284
24	-3.21	4.38			.078	.140	.153	.192	.194	.191	.176	.183	.167	.144	.132	.123	.087	.043	.100	.153	.232	.289	.305	.367	.450	.498	.638	.841	.149	.624	.369	.314
25	-3.09	4.72			.071	.146	.150	.188	.190	.190	.172	.178	.162	.137	.127	.119	.071	.044	.109	.169	.236	.286	.305	.374	.444	.485	.578	.706	.878	.082	.711	.483
26	-2.73	4.98			.075	.156	.165	.221	.227	.225	.206	.211	.195	.160	.146	.127	.087	.063	.131	.196	.258	.294	.299	.370	.448	.476	.553	.652	.777	.891	.060	.746
27	-2.23	5.57			.053	.149	.127	.197	.217	.208	.189	.190	.164	.129	.115	.097	.073	.058	.120	.182	.259	.288	.280	.338	.423	.452	.519	.613	.700	.770	.901	.017

TABLE IV.6 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

JUNE

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN		1.12	-0.53	-0.22	0.88	1.52	1.66	1.60	1.63	1.97	2.40	2.85	3.41	4.28	5.19	5.38	4.77	3.86	2.90	1.85	1.08	0.59	0.30	0.15	0.05	-0.04	-0.13	-0.14	-0.11
			SD		1.54	2.79	3.68	4.81	5.68	6.60	7.34	8.22	9.52	10.80	11.93	12.90	13.10	12.11	10.29	7.97	5.93	4.63	3.49	2.64	2.26	2.03	1.94	1.99	2.15	2.18	2.16	2.27
SFC	1.92	2.58			.521	.164	.112	.058	.068	.028	.031	.003	-.006	-.013	-.012	-.018	-.027	-.038	-.041	-.037	-.023	.041	.065	.037	-.006	.028	.032	.083	.105	.062	-.016	-.035
1	0.94	2.85			.228	-.279	.413	.315	.312	.257	.263	.254	.239	.237	.246	.249	.252	.281	.283	.294	.290	.307	.281	.173	.119	.112	.069	.099	.054	.089	.076	.065
2	2.65	4.17			-.034	.339	-.204	.736	.589	.514	.481	.456	.421	.399	.381	.380	.375	.374	.371	.372	.368	.340	.316	.230	.129	.082	.057	.042	.019	.066	.057	.014
3	3.49	5.98			-.005	.143	.754	-.062	.818	.704	.638	.590	.533	.501	.474	.460	.446	.442	.437	.429	.419	.374	.332	.235	.105	.073	.057	.018	-.009	.045	.067	.012
4	4.48	6.84			.022	.058	.597	.868	.034	.871	.784	.728	.669	.633	.595	.575	.555	.547	.535	.522	.503	.441	.365	.272	.136	.094	.019	-.017	-.014	.050	.096	.044
5	5.49	7.23			.032	.052	.500	.751	.901	.074	.905	.852	.780	.744	.708	.673	.653	.627	.603	.588	.553	.476	.381	.286	.145	.105	.042	.012	.021	.076	.116	.051
6	6.68	8.00			.026	.064	.462	.696	.832	.930	.108	.934	.876	.844	.804	.767	.731	.701	.676	.654	.615	.532	.427	.324	.175	.114	.049	.039	.051	.070	.092	.061
7	7.88	8.65			.030	.063	.420	.634	.780	.881	.947	.152	.948	.911	.871	.834	.799	.760	.727	.699	.649	.556	.452	.335	.200	.156	.077	.061	.068	.087	.097	.074
8	9.26	9.61			.036	.071	.399	.603	.741	.836	.905	.957	.212	.964	.925	.885	.838	.789	.746	.718	.661	.558	.449	.327	.202	.148	.063	.071	.084	.083	.096	.073
9	10.66	10.36			.030	.079	.375	.572	.708	.791	.859	.912	.957	.250	.966	.928	.878	.822	.770	.735	.673	.569	.460	.334	.218	.155	.066	.079	.092	.077	.090	.083
10	12.40	11.07			.035	.102	.354	.535	.671	.748	.817	.867	.913	.951	.304	.966	.918	.856	.799	.754	.681	.572	.451	.326	.214	.157	.061	.071	.089	.068	.083	.073
11	14.41	11.73			.042	.102	.342	.507	.638	.706	.767	.813	.858	.896	.955	.358	.958	.897	.835	.787	.711	.598	.464	.321	.214	.142	.040	.072	.093	.068	.063	.061
12	16.04	11.53			.040	.099	.325	.482	.608	.673	.730	.768	.810	.846	.903	.956	.380	.947	.885	.841	.762	.638	.498	.341	.225	.155	.042	.072	.086	.065	.050	.043
13	16.87	10.68			.034	.074	.309	.458	.577	.643	.687	.718	.749	.780	.829	.878	.926	.379	.937	.892	.818	.689	.538	.377	.248	.176	.046	.084	.097	.062	.046	.031
14	15.96	9.02			.027	.061	.296	.449	.564	.623	.659	.683	.700	.720	.757	.794	.839	.916	.339	.946	.874	.748	.586	.411	.274	.194	.059	.087	.098	.059	.058	.040
15	12.36	7.25			.009	.022	.310	.445	.562	.615	.646	.653	.660	.667	.684	.706	.745	.818	.903	.273	.926	.787	.635	.457	.311	.225	.085	.112	.112	.062	.060	.042
16	8.45	5.99			-.027	.015	.294	.405	.513	.572	.606	.602	.594	.587	.587	.591	.627	.698	.785	.892	.178	.860	.678	.506	.357	.263	.136	.129	.115	.079	.069	.038
17	4.08	5.01			.023	.019	.266	.344	.423	.495	.516	.517	.499	.475	.464	.459	.484	.538	.626	.723	.847	.069	.799	.554	.390	.295	.172	.180	.172	.138	.094	.066
18	0.09	4.31			.099	-.003	.231	.301	.366	.436	.441	.444	.416	.385	.368	.359	.375	.421	.509	.615	.697	.830	.007	.692	.414	.318	.227	.219	.208	.138	.078	.069
19	-3.04	3.67			.125	-.009	.213	.273	.325	.381	.386	.386	.376	.350	.321	.290	.303	.343	.423	.523	.594	.678	.776	-.021	.591	.329	.270	.233	.211	.171	.139	.076
20	-5.31	3.47			.136	-.029	.193	.261	.305	.350	.355	.343	.333	.315	.301	.265	.272	.293	.360	.452	.541	.617	.649	.771	.080	.560	.237	.269	.225	.174	.174	.117
21	-6.94	3.34			.068	-.054	.184	.253	.313	.372	.377	.369	.350	.330	.314	.279	.276	.287	.338	.409	.501	.557	.580	.615	.779	.035	.509	.265	.177	.195	.120	.129
22	-7.88	3.35			.048	-.017	.169	.218	.261	.313	.331	.316	.298	.282	.255	.225	.229	.225	.259	.325	.425	.479	.497	.551	.616	.786	-.003	.533	.111	.166	.134	.140
23	-8.62	3.51			.054	.005	.129	.138	.180	.221	.239	.219	.213	.201	.175	.155	.158	.156	.183	.256	.341	.399	.437	.496	.546	.617	.803	-.058	.458	.201	.154	.167
24	-9.25	3.57			.069	.014	.114	.093	.119	.171	.187	.173	.173	.152	.124	.113	.115	.127	.167	.250	.319	.371	.435	.487	.490	.522	.609	.789	-.027	.576	.241	.214
25	-9.75	3.86			.073	.001	.083	.083	.104	.162	.177	.170	.177	.162	.142	.136	.143	.164	.197	.259	.312	.370	.405	.453	.457	.505	.536	.609	.832	.027	.626	.371
26	-10.08	4.26			.024	.029	.134	.125	.145	.203	.226	.222	.231	.224	.212	.212	.215	.241	.260	.326	.366	.412	.409	.457	.457	.501	.538	.586	.698	.857	.030	.665
27	-10.41	4.79			.002	.046	.163	.138	.159	.202	.220	.219	.231	.229	.217	.223	.226	.244	.247	.304	.343	.366	.359	.393	.410	.440	.486	.529	.597	.691	.879	.095

TABLE IV.7 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

JULY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.22	0.21	1.31	2.97	3.00	4.31	4.82	5.24	6.00	6.87	8.20	9.42	9.89	9.64	8.39	6.63	4.72	3.00	1.80	1.14	0.72	0.50	0.40	0.33	0.23	0.21	0.27	0.29
			SD	1.48	2.22	3.11	3.98	4.15	4.43	4.96	5.69	6.49	7.29	8.03	8.87	9.13	8.96	7.79	6.04	4.57	3.63	2.79	2.31	1.00	1.97	1.91	1.84	2.07	2.04	2.25	2.53
SFC	1.92	2.39		.541	.090	.043	-.012	-.017	.026	.007	.001	.010	.003	-.001	-.017	-.031	-.051	-.045	-.041	.054	.161	.128	.102	.058	.044	.063	.087	.090	.117	.120	.085
1	0.31	2.61		.150	-.426	.438	.243	.149	.081	.083	.107	.131	.150	.161	.159	.140	.107	.080	.050	.085	.121	.136	.106	.099	.058	.067	.049	.081	.056	.028	.048
2	1.81	3.53		-.116	.262	-.294	.665	.457	.310	.254	.230	.258	.270	.273	.290	.290	.301	.283	.231	.217	.220	.197	.138	.072	.056	.039	.029	.017	-.025	.032	.077
3	1.97	4.67		-.037	.126	.761	.070	.753	.559	.469	.404	.389	.370	.368	.386	.381	.381	.364	.304	.252	.247	.172	.101	.070	.055	.032	.016	-.026	-.057	.013	.054
4	2.17	5.21		.048	.083	.569	.831	.175	.793	.628	.531	.499	.475	.444	.446	.433	.436	.420	.358	.324	.294	.202	.142	.081	.052	.044	.013	-.023	-.044	-.015	.039
5	2.27	5.56		.047	.003	.411	.660	.846	.193	.818	.657	.601	.555	.506	.491	.470	.465	.460	.420	.382	.341	.227	.151	.108	.061	.055	.031	-.026	-.012	.003	.012
6	2.00	6.12		.046	.002	.324	.547	.730	.874	.248	.847	.763	.711	.651	.611	.569	.538	.521	.491	.419	.359	.253	.168	.091	.051	.057	.049	-.005	.022	.055	.032
7	4.04	6.67		.019	.005	.287	.502	.668	.803	.912	.261	.897	.821	.744	.687	.639	.597	.575	.545	.458	.370	.258	.172	.090	.061	.066	.059	.021	.043	.053	.017
8	5.26	7.33		.018	-.007	.258	.469	.631	.755	.853	.937	.287	.917	.841	.774	.706	.655	.625	.585	.491	.385	.250	.165	.082	.059	.070	.055	.013	.035	.041	.027
9	6.63	7.96		.005	.016	.243	.444	.593	.703	.798	.880	.945	.264	.928	.850	.778	.718	.680	.625	.524	.410	.268	.171	.095	.063	.072	.085	.039	.038	.047	.056
10	8.06	8.57		.015	.031	.219	.407	.551	.653	.744	.819	.882	.942	.239	.932	.861	.793	.731	.660	.538	.421	.264	.177	.115	.076	.069	.089	.041	.039	.066	.081
11	9.21	9.11		.012	.031	.207	.380	.520	.614	.689	.764	.825	.882	.947	.243	.935	.863	.784	.699	.568	.458	.299	.208	.125	.074	.057	.076	.038	.036	.062	.083
12	9.95	9.35		.027	.017	.195	.353	.495	.589	.659	.728	.779	.828	.890	.948	.284	.934	.854	.756	.616	.497	.330	.226	.141	.093	.050	.059	.025	.018	.079	.101
13	9.91	9.08		.024	.019	.190	.354	.495	.582	.633	.689	.729	.773	.834	.889	.942	.324	.922	.818	.667	.542	.383	.267	.171	.118	.070	.075	.029	.019	.083	.091
14	8.49	8.22		.022	.017	.220	.390	.525	.599	.636	.685	.714	.749	.800	.840	.886	.931	.368	.883	.707	.584	.410	.289	.200	.148	.094	.095	.022	.008	.075	.073
15	5.74	6.75		-.070	.017	.286	.440	.553	.618	.663	.703	.715	.739	.768	.801	.835	.856	.910	.384	.833	.659	.471	.337	.230	.167	.117	.118	.059	.036	.086	.057
16	2.30	5.37		-.073	.021	.294	.445	.554	.610	.641	.675	.681	.697	.720	.742	.773	.785	.806	.882	.325	.770	.521	.397	.275	.196	.172	.160	.098	.091	.100	.069
17	-1.27	4.27		.018	.032	.246	.411	.533	.592	.613	.625	.625	.637	.656	.667	.685	.693	.712	.746	.831	.276	.656	.393	.307	.240	.184	.152	.150	.085	.087	.075
18	-4.29	3.49		.100	.020	.237	.384	.492	.544	.570	.583	.571	.571	.582	.587	.599	.612	.635	.665	.710	.798	.144	.576	.288	.259	.226	.176	.148	.121	.077	.041
19	-6.70	3.16		.147	-.004	.206	.358	.448	.493	.519	.521	.502	.489	.500	.505	.526	.540	.566	.599	.628	.635	.750	.117	.471	.203	.218	.168	.090	.127	.092	.066
20	-8.67	2.85		.166	.023	.195	.332	.403	.431	.421	.424	.414	.416	.430	.433	.450	.461	.476	.494	.514	.534	.574	.738	.048	.476	.166	.136	.121	.145	.112	.082
21	-10.26	2.85		.124	.013	.155	.299	.355	.389	.377	.373	.380	.389	.383	.385	.390	.396	.414	.435	.433	.450	.494	.535	.703	.118	.449	.137	.100	.103	.092	.084
22	-11.61	2.82		.055	.002	.152	.273	.325	.342	.355	.359	.369	.372	.367	.378	.388	.392	.395	.420	.408	.400	.437	.485	.544	.733	.048	.504	.071	-.020	.010	.065
23	-12.84	2.89		-.010	.011	.143	.228	.256	.276	.306	.322	.325	.338	.345	.357	.388	.392	.383	.396	.399	.382	.406	.454	.482	.517	.755	.010	.433	.095	-.007	.049
24	-13.94	3.10		-.016	.017	.134	.211	.206	.231	.228	.251	.264	.272	.284	.303	.328	.337	.332	.339	.343	.325	.353	.401	.440	.451	.542	.769	.028	.473	.066	.029
25	-14.81	3.51		-.001	.034	.155	.252	.247	.261	.246	.257	.265	.269	.283	.301	.309	.311	.312	.330	.307	.300	.331	.371	.407	.405	.448	.564	.775	.024	.523	.180
26	-15.66	3.85		.008	.045	.154	.247	.261	.262	.255	.263	.272	.272	.288	.306	.315	.313	.316	.341	.318	.307	.307	.352	.368	.364	.394	.465	.561	.805	.030	.602
27	-16.56	4.22		-.011	.054	.170	.243	.261	.257	.246	.246	.258	.263	.280	.309	.319	.329	.327	.333	.310	.276	.249	.297	.300	.322	.348	.403	.437	.579	.787	.050

TABLE IV.8 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

AUGUST

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.18	0.34	1.62	2.89	3.58	3.62	3.82	4.30	5.02	6.18	7.55	8.77	9.73	9.84	8.59	6.59	4.61	2.63	1.40	0.74	0.50	0.26	0.12	0.21	0.06	0.07	0.05	0.05
			SD	1.47	2.27	2.96	3.76	4.26	4.52	4.96	5.34	6.07	6.87	7.82	8.71	8.92	8.33	7.10	5.72	4.55	3.50	2.52	2.15	1.93	1.86	1.93	2.01	1.95	2.05	2.13	2.36
SFC	1.88	2.42		.584	.097	.029	-.051	-.018	.026	.055	.059	.038	.028	.030	.014	.000	-.045	-.074	-.039	.085	.184	.139	.085	.063	.030	.045	.025	.046	.059	.049	.051
1	0.23	2.66		.190	-.424	.396	.201	.126	.115	.074	.065	.084	.122	.137	.162	.164	.113	.065	.049	.121	.128	.136	.103	.095	.077	.067	.032	-.006	-.025	.067	.041
2	1.54	3.30		-.174	.277	-.270	.665	.455	.372	.303	.284	.271	.285	.294	.283	.270	.235	.219	.185	.211	.208	.214	.144	.095	.080	.057	.019	-.020	-.012	.021	.027
3	1.56	4.47		-.062	.032	.689	.041	.753	.582	.460	.446	.419	.404	.397	.381	.387	.362	.359	.313	.282	.249	.234	.157	.118	.078	-.011	-.016	-.062	-.020	-.038	-.020
4	1.71	5.26		-.018	-.033	.491	.847	.182	.804	.658	.611	.569	.545	.522	.501	.501	.478	.457	.416	.400	.338	.309	.176	.105	.049	-.034	-.039	-.065	-.035	-.048	-.036
5	2.14	5.51		-.012	-.030	.398	.724	.876	.215	.840	.757	.716	.679	.637	.597	.561	.535	.507	.484	.467	.413	.364	.198	.090	.036	-.048	-.042	-.060	-.027	-.039	-.032
6	2.91	5.00		-.022	-.040	.335	.636	.765	.884	.227	.873	.809	.760	.701	.629	.586	.551	.531	.518	.489	.408	.354	.171	.085	.051	-.026	-.015	-.057	-.013	-.033	-.003
7	3.86	6.61		-.025	-.054	.301	.592	.718	.825	.915	.212	.905	.831	.770	.684	.640	.599	.578	.567	.523	.431	.370	.198	.091	.049	-.010	.008	-.022	-.025	-.039	.014
8	4.98	7.22		-.031	-.048	.306	.573	.689	.786	.859	.931	.181	.918	.841	.751	.693	.638	.605	.600	.557	.449	.376	.198	.090	.044	-.008	.015	-.021	-.032	-.024	.027
9	6.34	8.10		-.044	-.034	.292	.553	.648	.733	.809	.874	.941	.157	.925	.829	.762	.701	.653	.634	.582	.460	.383	.199	.105	.059	.007	.015	-.013	-.019	.002	.047
10	7.65	8.99		-.039	-.037	.274	.522	.611	.684	.753	.811	.877	.947	.101	.926	.851	.775	.710	.672	.608	.477	.401	.200	.095	.045	.006	.022	-.009	-.007	.017	.042
11	8.93	9.83		-.028	-.031	.281	.511	.588	.642	.705	.755	.815	.886	.947	.027	.929	.846	.759	.699	.611	.475	.411	.197	.104	.022	-.011	.023	.018	.002	.020	.047
12	9.80	10.56		-.044	-.025	.294	.497	.563	.606	.657	.705	.759	.830	.891	.944	.012	.919	.826	.743	.641	.486	.429	.197	.104	.024	-.017	.003	-.005	-.014	.025	.050
13	9.98	9.98		-.048	-.042	.270	.482	.562	.594	.637	.682	.728	.787	.843	.897	.950	.011	.894	.796	.676	.507	.429	.198	.120	.049	-.010	.009	-.003	.004	.028	.050
14	8.62	8.46		-.067	-.066	.281	.491	.566	.599	.635	.674	.707	.749	.798	.848	.889	.926	.067	.866	.704	.533	.422	.201	.122	.072	.038	.035	.022	.016	.006	.036
15	6.24	6.64		-.144	-.125	.274	.480	.544	.586	.619	.651	.674	.697	.742	.791	.816	.849	.898	.055	.821	.601	.460	.236	.101	.053	.035	.062	.011	-.002	.006	.021
16	3.20	5.29		-.153	-.109	.262	.460	.525	.562	.577	.601	.612	.619	.648	.684	.709	.742	.775	.864	.090	.751	.510	.295	.169	.084	.080	.080	.033	.041	.034	.052
17	-0.12	4.15		-.045	-.090	.196	.411	.487	.514	.501	.510	.516	.507	.537	.562	.570	.598	.615	.685	.796	.093	.632	.292	.238	.129	.149	.118	.070	.062	.061	.084
18	-2.87	3.48		-.004	-.073	.205	.367	.426	.426	.405	.407	.405	.398	.425	.451	.466	.496	.508	.581	.649	.764	-.005	.459	.213	.159	.150	.089	.043	.055	.075	.062
19	-5.20	3.11		.040	-.076	.168	.296	.345	.334	.322	.331	.326	.309	.332	.359	.368	.390	.414	.474	.557	.609	.755	.001	.428	.206	.186	.167	.125	.109	.131	.099
20	-7.16	3.03		.069	-.068	.118	.225	.266	.257	.262	.279	.280	.266	.284	.312	.319	.335	.353	.384	.467	.516	.577	.733	.043	.418	.132	.161	.193	.171	.182	.146
21	-9.04	2.83		.025	-.072	.116	.185	.213	.210	.230	.230	.247	.225	.232	.255	.262	.270	.303	.349	.405	.457	.509	.591	.754	.040	.493	.152	.147	.169	.192	.161
22	-10.75	2.82		-.032	-.038	.121	.158	.162	.165	.173	.192	.205	.195	.205	.215	.217	.222	.234	.294	.369	.414	.454	.516	.568	.766	.044	.494	.195	.155	.143	.161
23	-12.04	2.93		-.041	-.043	.148	.160	.142	.125	.125	.153	.186	.189	.203	.208	.219	.216	.228	.276	.353	.347	.408	.481	.545	.594	.760	-.007	.502	.190	.158	.187
24	-13.20	2.94		-.012	.001	.156	.165	.128	.098	.091	.118	.148	.159	.181	.197	.213	.199	.210	.233	.317	.323	.372	.450	.492	.527	.575	.779	-.015	.567	.260	.228
25	-14.16	3.05		-.010	.034	.179	.188	.156	.123	.110	.123	.136	.155	.168	.201	.221	.217	.222	.248	.304	.317	.366	.435	.474	.494	.523	.600	.793	.023	.563	.275
26	-14.96	3.34		-.018	.015	.165	.173	.135	.095	.087	.102	.104	.116	.125	.161	.181	.181	.180	.204	.251	.266	.332	.401	.449	.457	.469	.517	.603	.792	.009	.599
27	-15.74	3.59		-.029	.026	.134	.131	.079	.040	.035	.049	.068	.085	.087	.120	.149	.159	.163	.175	.211	.230	.300	.343	.384	.401	.424	.464	.510	.607	.821	-.023

TABLE IV.9 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

SEPTEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL SD	0.82	0.38	1.40	2.20	2.24	1.85	2.02	2.34	2.96	3.67	4.43	5.27	6.15	6.47	5.00	4.99	3.32	1.75	0.58	0.09	-0.02	-0.17	-0.20	-0.19	-0.04	0.01	-0.12	-0.11
SFC	1.28	2.58		1.58	2.33	3.81	5.18	6.38	7.10	8.29	9.20	10.21	11.24	11.91	12.44	12.39	11.26	9.68	8.11	6.22	4.66	3.46	2.73	2.33	2.16	1.60	2.02	2.03	1.99	2.00	2.17
SFC	1.28	2.58	.593	.046	.023	.001	.019	.012	.017	-.000	-.016	-.014	-.007	-.012	-.012	-.017	-.020	-.027	.014	.081	.074	.078	-.008	-.004	.019	.064	.068	.062	.046	.026
1	-0.08	2.72	.191	-.263	.511	.388	.378	.383	.356	.343	.333	.317	.301	.299	.294	.289	.277	.262	.228	.221	.233	.196	.121	.098	.061	.044	.040	.015	.044	.065
2	0.86	4.23	-.047	.348	-.085	.768	.667	.610	.578	.552	.527	.499	.484	.473	.472	.473	.462	.462	.432	.364	.325	.250	.134	.085	.033	-.000	.000	-.017	.054	.060
3	1.32	5.51	-.005	.159	.753	.052	.857	.755	.715	.686	.655	.630	.619	.595	.598	.583	.567	.580	.544	.464	.391	.279	.148	.083	-.014	-.014	.003	-.030	.043	.034
4	2.66	6.07	.011	.114	.582	.839	.025	.893	.835	.800	.768	.737	.723	.697	.683	.667	.643	.653	.616	.541	.453	.330	.167	.088	.003	.021	.043	.014	.062	.040
5	3.95	6.38	.023	.089	.527	.752	.882	.070	.934	.888	.854	.817	.792	.759	.733	.712	.687	.695	.657	.578	.476	.371	.205	.115	.011	.044	.081	.058	.089	.072
6	5.33	7.15	.028	.074	.486	.683	.802	.918	.087	.942	.898	.866	.835	.799	.762	.742	.714	.716	.681	.598	.489	.380	.218	.115	.018	.043	.061	.045	.067	.066
7	6.78	8.29	.006	.113	.462	.640	.753	.855	.929	.114	.952	.907	.866	.822	.780	.758	.725	.728	.692	.604	.500	.382	.233	.135	.018	.033	.054	.043	.051	.041
8	8.61	9.61	.000	.128	.448	.607	.701	.801	.867	.936	.157	.961	.911	.864	.814	.783	.743	.739	.702	.611	.493	.375	.225	.127	.025	.029	.044	.022	.033	.034
9	10.41	10.47	-.011	.140	.420	.577	.655	.750	.813	.886	.952	.198	.955	.905	.853	.815	.770	.759	.712	.614	.489	.366	.222	.130	.015	.031	.043	.011	.022	.034
10	12.70	11.77	-.031	.138	.385	.532	.604	.692	.745	.816	.889	.949	.210	.956	.905	.873	.827	.804	.742	.643	.505	.365	.215	.125	-.005	.019	.048	.031	.046	.050
11	15.12	12.79	-.035	.119	.365	.497	.559	.647	.695	.757	.830	.894	.955	.243	.554	.917	.869	.837	.756	.661	.522	.383	.227	.129	.013	.021	.041	.034	.046	.057
12	17.05	12.84	-.034	.110	.348	.469	.537	.622	.657	.711	.779	.838	.893	.947	.221	.954	.904	.870	.798	.694	.545	.395	.232	.131	.022	.018	.041	.028	.049	.054
13	17.66	11.63	-.016	.118	.324	.453	.523	.598	.616	.662	.716	.770	.817	.873	.929	.198	.937	.901	.831	.733	.577	.418	.249	.147	.005	.002	.032	.025	.055	.053
14	16.05	9.89	-.036	.100	.331	.465	.531	.601	.611	.654	.693	.729	.758	.806	.860	.923	.188	.932	.858	.763	.609	.457	.263	.168	.000	-.004	.046	.029	.069	.054
15	12.90	8.09	-.061	.107	.351	.488	.556	.639	.637	.667	.695	.717	.729	.756	.810	.865	.925	.162	.916	.803	.647	.495	.309	.161	.013	-.000	.041	.007	.042	.049
16	8.90	6.38	-.082	.088	.326	.491	.567	.625	.615	.635	.646	.654	.646	.660	.706	.755	.816	.901	.099	.864	.665	.518	.319	.168	.029	.014	.027	.004	.048	.039
17	4.61	5.23	-.004	.097	.283	.447	.532	.554	.534	.541	.531	.519	.504	.512	.548	.585	.663	.728	.834	.015	.772	.532	.353	.200	.058	.025	.036	.017	.056	.043
18	0.98	4.34	.070	.100	.214	.352	.410	.424	.409	.412	.393	.379	.366	.370	.389	.424	.508	.559	.641	.776	-.008	.642	.334	.214	.081	.085	.066	.047	.087	.032
19	-1.34	3.75	.093	.111	.221	.330	.363	.363	.346	.344	.335	.313	.294	.296	.319	.360	.421	.482	.576	.673	.788	-.023	.548	.244	.128	.113	.131	.081	.098	.047
20	-3.02	3.43	.049	.108	.217	.295	.296	.282	.257	.258	.254	.233	.224	.230	.237	.282	.341	.399	.480	.556	.593	.748	.075	.479	.188	.134	.139	.120	.119	.105
21	-4.29	3.39	.021	.090	.184	.238	.241	.233	.219	.219	.217	.203	.192	.194	.198	.239	.295	.339	.402	.438	.495	.545	.742	.019	.448	.162	.166	.153	.140	.150
22	-5.30	3.42	-.021	.076	.191	.240	.236	.221	.201	.197	.210	.204	.195	.205	.219	.246	.295	.330	.378	.402	.426	.466	.561	.762	.054	.487	.200	.148	.150	.156
23	-5.92	3.75	-.031	.130	.167	.223	.209	.196	.174	.176	.195	.193	.194	.217	.240	.270	.312	.343	.366	.377	.354	.390	.496	.609	.815	.072	.530	.210	.127	.134
24	-6.50	4.11	-.058	.091	.124	.165	.156	.141	.120	.141	.162	.162	.172	.189	.202	.221	.255	.286	.306	.315	.281	.306	.411	.525	.680	.897	.116	.566	.248	.226
25	-6.77	4.39	-.064	.076	.108	.144	.139	.131	.120	.148	.175	.176	.190	.202	.208	.230	.262	.279	.282	.287	.256	.275	.368	.484	.642	.769	.877	.127	.585	.280
26	-6.98	4.62	-.053	.081	.096	.130	.127	.122	.111	.140	.183	.187	.197	.214	.231	.243	.274	.293	.283	.278	.257	.260	.345	.450	.604	.713	.780	.898	.110	.582
27	-7.03	5.13	-.059	.050	.111	.147	.140	.134	.128	.155	.193	.196	.207	.227	.243	.254	.276	.294	.296	.295	.270	.252	.346	.446	.590	.683	.719	.790	.897	.074

TABLE IV.10 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

OCTOBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.15	-0.31	-0.14	-0.42	-0.63	-0.85	-1.14	-1.23	-1.29	-1.05	-0.90	-0.52	0.09	0.80	1.24	1.20	1.05	0.72	0.27	-0.31	-0.60	-0.69	-0.61	-0.42	-0.37	-0.16	-0.00	0.03
			SD	1.96	3.20	4.37	5.88	7.16	8.48	9.92	11.43	12.74	13.90	14.83	14.72	13.93	12.20	10.37	8.47	6.93	5.50	4.32	3.54	3.01	2.94	2.86	2.72	2.72	2.70	2.76	3.01
SFC	0.91	2.55		.587	.266	.105	.144	.161	.147	.153	.136	.128	.131	.128	.113	.120	.121	.135	.145	.139	.128	.130	.077	.043	.044	.029	.007	.054	.011	.044	.014
1	-0.49	2.76	.269		.053	.617	.559	.544	.520	.490	.471	.466	.452	.428	.405	.392	.393	.410	.387	.370	.361	.336	.275	.183	.142	.125	.119	.131	.093	.080	.092
2	-0.00	4.37	-.008	.324		.029	.826	.738	.679	.630	.612	.593	.571	.551	.531	.515	.506	.482	.469	.460	.444	.402	.299	.210	.145	.104	.114	.137	.110	.096	.063
3	0.54	6.36	.033	.169	.784		.065	.875	.788	.746	.714	.700	.675	.651	.631	.606	.589	.556	.539	.537	.514	.434	.303	.206	.130	.066	.113	.142	.104	.093	.073
4	2.11	7.73	.044	.169	.646	.879		.042	.907	.851	.820	.797	.764	.731	.711	.691	.669	.637	.618	.600	.563	.470	.326	.205	.115	.053	.106	.136	.100	.094	.087
5	3.61	8.81	.047	.155	.589	.800	.917		.024	.925	.888	.859	.824	.793	.771	.747	.720	.684	.664	.630	.581	.468	.331	.192	.111	.054	.091	.142	.125	.109	.116
6	4.81	9.94	.061	.157	.546	.736	.858	.939		.036	.946	.911	.872	.833	.800	.771	.742	.695	.672	.639	.578	.468	.335	.174	.116	.057	.078	.120	.102	.096	.108
7	5.00	11.26	.058	.148	.508	.686	.810	.888	.948		.067	.960	.920	.881	.840	.804	.767	.710	.680	.629	.561	.449	.311	.167	.107	.043	.074	.111	.099	.099	.119
8	7.37	12.41	.074	.151	.483	.633	.757	.836	.900	.957		.117	.964	.922	.879	.833	.790	.728	.693	.635	.564	.446	.308	.166	.103	.047	.073	.117	.097	.099	.116
9	8.80	13.40	.082	.159	.452	.590	.704	.781	.846	.905	.957		.179	.962	.917	.867	.818	.753	.709	.654	.589	.469	.323	.180	.104	.046	.088	.129	.108	.090	.100
10	10.31	13.72	.093	.139	.420	.550	.655	.724	.783	.844	.897	.954		.228	.955	.904	.852	.785	.743	.688	.613	.492	.333	.181	.092	.039	.090	.128	.113	.089	.098
11	12.16	14.03	.080	.130	.399	.508	.607	.671	.725	.783	.836	.893	.953		.266	.958	.904	.842	.807	.747	.663	.537	.369	.209	.118	.065	.108	.147	.114	.081	.099
12	13.44	13.98	.073	.110	.390	.489	.576	.632	.677	.735	.782	.836	.898	.952		.287	.943	.886	.852	.792	.708	.567	.391	.229	.125	.084	.121	.154	.113	.083	.115
13	13.83	12.77	.090	.137	.386	.487	.566	.617	.655	.700	.736	.781	.837	.888	.943		.294	.935	.896	.835	.740	.599	.424	.262	.141	.091	.122	.147	.112	.084	.127
14	13.43	11.07	.101	.116	.391	.508	.582	.614	.639	.679	.710	.736	.779	.824	.872	.930		.286	.937	.869	.784	.649	.488	.323	.182	.136	.152	.157	.119	.084	.130
15	11.96	9.37	.092	.120	.425	.554	.616	.637	.652	.677	.691	.708	.741	.781	.830	.885	.942		.317	.924	.827	.698	.528	.360	.225	.159	.169	.174	.140	.114	.147
16	10.08	8.03	.094	.107	.431	.572	.628	.637	.631	.646	.651	.657	.683	.717	.760	.807	.866	.929		.344	.897	.743	.583	.414	.275	.191	.187	.199	.149	.101	.129
17	7.40	6.69	.107	.094	.401	.541	.582	.581	.561	.575	.580	.573	.591	.620	.657	.704	.770	.819	.903		.830	.627	.478	.339	.269	.247	.231	.161	.132	.139
18	4.78	5.69	.107	.054	.339	.488	.527	.518	.499	.503	.497	.490	.509	.531	.567	.603	.664	.708	.778	.882		.366	.761	.535	.399	.304	.280	.254	.179	.155	.178
19	2.59	4.89	.106	.035	.276	.411	.449	.442	.423	.427	.414	.401	.411	.430	.451	.476	.543	.588	.672	.762	.870		.324	.663	.434	.383	.320	.271	.173	.117	.120
20	1.20	4.47	.085	.035	.225	.342	.373	.392	.374	.367	.364	.352	.360	.382	.394	.424	.473	.516	.589	.670	.724	.844		.260	.679	.495	.415	.295	.212	.154	.125
21	0.48	3.96	.083	.045	.241	.300	.306	.318	.302	.307	.290	.280	.294	.310	.315	.351	.405	.439	.499	.571	.617	.699	.785		.237	.681	.445	.338	.269	.207	.159
22	0.28	3.98	.050	.031	.176	.182	.186	.199	.184	.197	.189	.182	.202	.227	.237	.262	.302	.314	.361	.439	.481	.546	.601	.807		.208	.665	.377	.297	.254	.207
23	0.48	4.18	.038	.045	.127	.121	.113	.110	.097	.110	.108	.105	.132	.148	.163	.195	.224	.235	.271	.332	.364	.411	.480	.625	.833		.131	.668	.396	.325	.287
24	0.96	4.65	.007	-.006	.075	.068	.054	.050	.037	.039	.032	.033	.062	.082	.096	.128	.150	.161	.190	.244	.277	.324	.406	.524	.681	.860		.119	.659	.444	.381
25	1.60	5.17	-.010	-.031	.009	-.003	-.017	-.027	-.031	-.029	-.034	-.032	-.005	.022	.040	.058	.071	.075	.101	.173	.208	.253	.329	.446	.604	.745	.885		.160	.718	.479
26	2.69	5.87	.001	-.029	-.023	-.023	-.053	-.063	-.067	-.070	-.073	-.070	-.042	-.014	.005	.020	.019	.028	.056	.130	.163	.207	.284	.386	.529	.672	.778	.912		.204	.760
27	3.89	6.60	-.009	-.046	-.039	-.035	-.065	-.082	-.085	-.089	-.088	-.089	-.062	-.045	-.027	-.011	-.000	.012	.046	.125	.173	.206	.263	.366	.509	.639	.741	.846	.942		.224

TABLE IV.II INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

NOVEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN		-0.84	-0.90	-1.45	-2.57	-3.05	-3.53	-3.82	-3.82	-4.04	-4.23	-4.25	-3.93	-3.05	-2.33	-1.73	-1.47	-1.40	-1.38	-1.32	-1.07	-1.09	-0.95	-0.95	-0.83	-0.83	-0.82	-0.90	-0.88
			SD		2.57	3.81	5.39	7.33	8.90	10.51	12.09	13.75	15.44	16.67	17.51	17.41	16.47	14.90	12.99	10.96	9.06	7.32	6.01	4.79	4.03	3.50	3.28	3.34	3.59	3.79	3.95	4.31
SFC	0.10	2.61			.474	.182	.094	.130	.149	.159	.165	.174	.162	.155	.148	.138	.132	.124	.121	.124	.104	.091	.060	.007	-.027	-.060	-.108	-.059	-.060	-.064	-.014	.022
1	-0.37	3.35			.322	-.107	.700	.652	.654	.635	.620	.586	.567	.556	.536	.520	.499	.489	.494	.507	.489	.441	.406	.336	.270	.117	.017	-.003	.003	-.004	.017	.063
2	0.27	4.96			.034	.510	-.005	.826	.795	.758	.723	.697	.678	.660	.638	.617	.605	.593	.581	.611	.594	.528	.499	.397	.313	.196	.086	.052	.053	.049	.081	.131
3	2.63	6.78			.047	.376	.799	.061	.904	.855	.816	.786	.761	.744	.729	.712	.695	.677	.672	.691	.673	.613	.567	.455	.337	.220	.126	.093	.076	.049	.104	.160
4	4.82	8.05			.059	.350	.724	.889	.090	.937	.889	.856	.832	.818	.796	.772	.749	.723	.713	.726	.700	.625	.570	.454	.346	.227	.133	.109	.084	.051	.099	.145
5	6.68	9.23			.048	.328	.665	.829	.925	.115	.951	.914	.888	.869	.839	.814	.791	.760	.746	.746	.719	.639	.579	.446	.333	.225	.125	.116	.088	.063	.102	.156
6	8.55	10.35			.069	.311	.632	.796	.876	.941	.120	.960	.932	.909	.876	.849	.822	.781	.761	.757	.724	.644	.576	.438	.330	.224	.125	.119	.091	.060	.094	.161
7	10.34	11.45			.060	.270	.577	.744	.827	.888	.944	.152	.967	.937	.901	.867	.834	.783	.759	.750	.712	.625	.552	.423	.320	.216	.114	.105	.085	.053	.084	.156
8	12.06	12.58			.058	.253	.531	.705	.773	.833	.886	.943	.221	.968	.933	.897	.856	.803	.775	.759	.714	.630	.563	.435	.336	.225	.118	.100	.080	.056	.080	.136
9	13.84	13.41			.055	.224	.485	.651	.713	.768	.824	.880	.954	.285	.965	.927	.881	.824	.788	.767	.720	.639	.570	.442	.341	.221	.121	.099	.064	.037	.066	.120
10	15.82	14.21			.055	.208	.453	.615	.665	.717	.765	.819	.895	.956	.342	.966	.919	.858	.815	.791	.743	.664	.595	.464	.354	.237	.137	.098	.059	.033	.067	.122
11	17.48	14.67			.056	.199	.433	.594	.629	.669	.714	.760	.832	.896	.944	.380	.959	.900	.855	.823	.776	.698	.631	.506	.387	.266	.162	.123	.077	.047	.075	.126
12	18.47	14.25			.055	.188	.433	.580	.615	.647	.685	.721	.781	.836	.881	.941	.377	.948	.904	.871	.821	.739	.673	.546	.421	.291	.183	.141	.088	.057	.080	.123
13	18.50	12.78			.060	.192	.456	.599	.637	.660	.688	.711	.749	.777	.809	.863	.925	.328	.948	.910	.860	.783	.720	.591	.469	.329	.220	.167	.105	.073	.091	.124
14	17.41	11.71			.052	.194	.470	.595	.642	.654	.680	.689	.704	.713	.733	.779	.838	.931	.323	.948	.895	.827	.758	.637	.511	.370	.256	.191	.118	.087	.098	.128
15	15.78	10.15			.053	.185	.471	.591	.640	.647	.661	.653	.652	.651	.663	.701	.764	.865	.933	.290	.943	.863	.804	.690	.559	.421	.281	.212	.148	.111	.110	.145
16	13.65	8.73			.049	.190	.480	.581	.632	.635	.642	.631	.624	.619	.627	.655	.717	.820	.872	.931	.300	.918	.848	.735	.600	.463	.338	.259	.172	.133	.134	.166
17	11.15	7.67			.061	.187	.462	.552	.601	.598	.603	.587	.573	.566	.569	.591	.646	.745	.804	.855	.924	.328	.901	.760	.625	.488	.351	.271	.171	.123	.131	.152
18	8.45	7.10			.049	.182	.458	.533	.565	.555	.558	.543	.523	.520	.527	.549	.589	.679	.741	.788	.845	.921	.342	.861	.698	.536	.380	.299	.199	.145	.137	.148
19	6.12	6.54			.024	.159	.440	.516	.545	.540	.546	.520	.505	.495	.494	.513	.555	.635	.689	.738	.802	.849	.918	.348	.824	.612	.455	.357	.256	.188	.172	.151
20	4.30	5.92			.005	.127	.378	.449	.473	.467	.473	.454	.440	.429	.433	.457	.500	.568	.618	.666	.723	.763	.794	.880	.325	.752	.464	.356	.278	.239	.214	.160
21	3.50	5.70			.001	.123	.341	.411	.429	.427	.435	.420	.405	.400	.409	.440	.476	.534	.575	.618	.669	.706	.734	.789	.897	.285	.682	.483	.398	.370	.336	.285
22	3.42	5.80			.011	.130	.336	.397	.411	.408	.409	.399	.390	.386	.393	.420	.455	.505	.538	.578	.628	.657	.690	.738	.797	.891	.255	.752	.525	.458	.429	.381
23	3.87	6.37			.013	.114	.288	.346	.360	.363	.367	.356	.350	.341	.353	.380	.409	.454	.483	.513	.561	.594	.625	.672	.733	.781	.859	.263	.748	.550	.476	.432
24	4.44	6.95			-.008	.088	.224	.265	.271	.270	.274	.260	.261	.264	.274	.303	.333	.376	.404	.432	.488	.515	.537	.571	.641	.706	.805	.913	.285	.795	.589	.521
25	5.36	7.58			-.018	.080	.195	.226	.225	.225	.222	.209	.203	.210	.215	.243	.280	.320	.347	.380	.431	.449	.467	.500	.567	.636	.737	.819	.934	.284	.809	.652
26	6.80	8.46			-.027	.063	.171	.205	.201	.199	.197	.185	.181	.184	.175	.206	.248	.281	.314	.342	.386	.399	.413	.446	.509	.572	.665	.744	.847	.935	.316	.834
27	8.37	9.41			-.040	.048	.159	.191	.188	.186	.181	.167	.162	.167	.157	.177	.217	.246	.275	.298	.345	.361	.374	.403	.456	.517	.614	.687	.781	.863	.948	.332

TABLE IV. 12 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

DECEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
				-1.01	-1.02	-1.81	-3.34	-4.02	-4.30	-4.59	-4.92	-5.54	-6.01	-6.30	-6.13	-4.91	-4.14	-3.64	-3.16	-2.00	-2.74	-2.81	-2.87	-2.84	-2.76	-2.93	-2.91	-2.84	-2.77	-2.00	-3.01
			SD	2.38	3.79	5.34	7.31	8.55	9.68	11.34	12.88	14.62	15.74	16.65	16.79	15.54	13.33	11.39	9.69	8.20	6.74	5.61	4.61	4.02	3.69	3.60	3.68	3.98	4.32	4.67	4.97
SFC	-0.17	2.33		.461	.126	.111	.105	.152	.171	.174	.156	.163	.149	.123	.109	.098	.089	.103	.114	.100	.076	.091	.113	.105	.055	.022	.028	-.022	-.033	-.035	-.018
1	-0.51	3.56		.261	.173	.715	.635	.612	.568	.543	.515	.505	.493	.477	.461	.443	.430	.415	.380	.344	.312	.310	.269	.199	.166	.081	.020	-.002	.025	.004	-.032
2	0.26	5.36		.040	.590	.102	.826	.772	.728	.689	.651	.643	.632	.607	.594	.569	.556	.523	.499	.455	.423	.398	.334	.252	.193	.098	.040	.007	.032	.018	-.014
3	2.30	7.28		.051	.493	.834	.089	.899	.842	.790	.754	.745	.733	.724	.708	.677	.657	.630	.590	.542	.505	.468	.381	.287	.214	.101	.054	.005	.027	.003	-.042
4	4.21	8.53		.071	.452	.754	.896	.017	.923	.874	.837	.818	.801	.777	.752	.712	.682	.653	.617	.564	.522	.488	.409	.305	.224	.120	.083	.025	.077	.051	-.005
5	5.96	9.54		.103	.433	.697	.832	.933	.014	.944	.905	.881	.855	.819	.784	.733	.687	.655	.627	.580	.526	.493	.409	.313	.226	.117	.097	.021	.063	.041	-.001
6	7.41	11.01		.101	.415	.668	.800	.896	.953	.076	.954	.920	.889	.843	.801	.741	.683	.652	.622	.572	.503	.477	.386	.286	.211	.104	.093	.016	.055	.032	-.003
7	8.84	12.39		.082	.371	.627	.754	.847	.903	.952	.135	.969	.929	.879	.835	.770	.707	.665	.635	.578	.505	.476	.384	.295	.216	.112	.106	.020	.060	.028	-.016
8	10.17	13.92		.076	.338	.589	.716	.805	.866	.913	.967	.183	.964	.913	.868	.799	.731	.683	.649	.590	.518	.484	.386	.298	.226	.119	.105	.023	.066	.027	-.016
9	11.84	15.15		.058	.294	.551	.673	.753	.814	.862	.920	.963	.238	.958	.908	.837	.767	.716	.682	.615	.543	.507	.411	.320	.243	.124	.103	.022	.058	.022	-.017
10	13.79	16.41		.036	.242	.496	.607	.683	.744	.796	.857	.906	.959	.284	.957	.886	.817	.766	.727	.657	.591	.543	.440	.342	.273	.141	.110	.030	.052	.019	-.023
11	16.46	16.73		.027	.208	.453	.556	.632	.687	.740	.798	.851	.908	.956	.299	.941	.868	.803	.761	.681	.615	.559	.455	.352	.284	.157	.124	.038	.052	.019	-.029
12	18.52	15.58		.018	.166	.419	.527	.600	.656	.709	.761	.808	.861	.903	.949	.298	.935	.868	.826	.745	.680	.621	.513	.398	.309	.187	.138	.050	.059	.023	-.025
13	19.19	13.34		.035	.165	.420	.529	.593	.648	.692	.736	.772	.821	.852	.884	.941	.277	.919	.877	.801	.745	.691	.586	.465	.356	.222	.158	.062	.059	.027	-.015
14	18.47	11.15		.061	.197	.422	.530	.582	.635	.673	.703	.727	.762	.777	.806	.860	.925	.250	.930	.856	.800	.739	.625	.505	.396	.246	.167	.055	.037	.009	-.022
15	16.74	9.52		.063	.207	.429	.538	.573	.613	.646	.662	.671	.698	.705	.731	.783	.856	.925	.287	.917	.842	.781	.672	.555	.442	.291	.195	.076	.058	.018	-.008
16	14.59	8.14		.056	.217	.433	.533	.567	.592	.615	.621	.626	.642	.641	.657	.708	.786	.852	.923	.313	.903	.800	.708	.593	.489	.342	.226	.094	.070	.027	-.008
17	11.78	7.20		.055	.208	.410	.497	.529	.540	.560	.561	.556	.569	.558	.569	.619	.699	.767	.818	.894	.263	.887	.755	.634	.553	.415	.285	.137	.120	.065	.022
18	8.97	6.47		.070	.210	.401	.487	.518	.504	.521	.515	.505	.511	.494	.495	.546	.616	.693	.754	.814	.895	.271	.858	.679	.590	.468	.341	.190	.180	.124	.074
19	6.26	6.08		.072	.201	.370	.448	.465	.447	.455	.439	.424	.427	.400	.401	.451	.524	.600	.678	.742	.790	.891	.234	.787	.637	.534	.417	.275	.237	.166	.109
20	4.12	5.76		.071	.183	.315	.394	.395	.383	.383	.366	.355	.353	.324	.321	.363	.437	.520	.590	.662	.720	.791	.883	.194	.793	.606	.496	.370	.313	.256	.193
21	2.74	6.01		.081	.160	.268	.348	.331	.317	.319	.301	.293	.285	.253	.252	.291	.345	.424	.492	.567	.641	.717	.776	.892	.179	.749	.530	.422	.390	.341	.282
22	1.00	6.34		.061	.161	.251	.329	.316	.297	.288	.268	.258	.241	.204	.198	.233	.271	.340	.415	.486	.555	.633	.699	.789	.901	.172	.758	.544	.480	.430	.369
23	1.99	6.98		.052	.165	.235	.307	.303	.279	.264	.242	.232	.209	.167	.160	.189	.218	.286	.343	.408	.477	.566	.637	.734	.804	.919	.219	.790	.640	.563	.517
24	2.48	7.89		.029	.131	.183	.249	.242	.222	.209	.187	.181	.157	.119	.113	.138	.158	.222	.274	.329	.391	.480	.549	.657	.738	.840	.934	.283	.810	.689	.607
25	3.53	8.00		.032	.126	.163	.229	.209	.188	.178	.149	.139	.110	.074	.067	.088	.103	.162	.212	.260	.325	.407	.473	.581	.679	.780	.862	.947	.320	.855	.711
26	5.12	10.23		.034	.139	.160	.207	.192	.166	.159	.125	.114	.081	.047	.043	.062	.068	.124	.180	.224	.287	.366	.432	.528	.623	.737	.818	.890	.955	.380	.875
27	7.05	11.43		.025	.133	.144	.187	.178	.156	.144	.110	.098	.063	.033	.033	.052	.056	.105	.162	.200	.263	.337	.403	.496	.582	.694	.786	.854	.915	.967	.410

TABLE IV.13 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

WINTER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3252

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.79	-0.74	-1.63	-2.96	-3.40	-3.71	-3.95	-4.19	-4.58	-4.86	-5.13	-5.07	-4.32	-3.60	-3.00	-2.64	-2.49	-2.31	-2.40	-2.43	-2.42	-2.40	-2.45	-2.40	-2.31	-2.22	-2.34	-2.26
			SD	2.42	4.07	5.68	7.73	9.28	10.66	12.02	13.61	15.38	16.69	17.61	17.68	16.24	14.18	12.21	10.28	8.70	7.17	5.93	4.91	4.19	3.97	3.84	3.83	3.99	4.40	4.86	5.44
SFC	0.06	2.49		.436	.177	.134	.151	.184	.183	.190	.179	.169	.159	.134	.109	.090	.076	.069	.078	.077	.083	.065	.068	.053	.041	.024	.030	.008	.010	.013	.016
1	-0.06	3.76		.307	-.091	.732	.645	.627	.590	.577	.559	.536	.512	.479	.444	.414	.383	.374	.365	.364	.346	.330	.279	.214	.165	.120	.072	.028	.021	.021	.016
2	1.48	5.54		.079	.584	.047	.847	.789	.750	.724	.692	.666	.641	.604	.572	.535	.508	.494	.490	.477	.464	.434	.356	.275	.198	.136	.077	.030	.016	.017	.006
3	4.31	7.36		.082	.441	.834	.065	.911	.861	.823	.789	.764	.739	.708	.674	.632	.603	.587	.580	.565	.544	.502	.410	.317	.226	.154	.092	.040	.026	.027	.012
4	6.64	8.91		.098	.417	.761	.902	.128	.934	.890	.854	.824	.794	.756	.718	.671	.638	.617	.608	.591	.567	.522	.430	.330	.236	.162	.104	.051	.050	.052	.029
5	8.04	10.10		.117	.404	.711	.844	.929	.144	.948	.909	.877	.844	.799	.754	.706	.665	.640	.630	.609	.580	.534	.439	.338	.234	.161	.106	.050	.052	.052	.032
6	10.77	11.60		.112	.373	.666	.800	.879	.944	.167	.957	.921	.884	.832	.782	.728	.681	.650	.633	.608	.574	.527	.428	.318	.229	.157	.109	.054	.053	.052	.037
7	12.65	13.09		.110	.338	.616	.751	.832	.893	.952	.199	.967	.928	.875	.822	.763	.712	.673	.652	.620	.581	.530	.428	.321	.229	.157	.114	.054	.053	.048	.029
8	14.62	14.58		.112	.310	.585	.716	.793	.853	.909	.961	.232	.965	.913	.861	.797	.740	.694	.668	.633	.590	.533	.426	.321	.229	.153	.113	.056	.058	.050	.029
9	16.75	15.89		.103	.281	.552	.674	.748	.807	.861	.911	.961	.272	.958	.903	.835	.772	.726	.697	.651	.604	.544	.437	.327	.234	.153	.110	.053	.056	.052	.028
10	19.24	17.33		.094	.250	.507	.615	.688	.745	.801	.850	.900	.955	.287	.954	.888	.822	.772	.736	.684	.634	.566	.452	.336	.237	.154	.109	.051	.054	.053	.027
11	22.09	17.27		.085	.217	.465	.562	.630	.682	.742	.788	.835	.893	.951	.277	.944	.875	.817	.777	.714	.564	.591	.474	.354	.252	.170	.123	.062	.062	.062	.035
12	24.92	15.30		.079	.192	.438	.534	.598	.647	.699	.737	.779	.829	.881	.941	.246	.935	.876	.833	.770	.715	.635	.514	.396	.277	.193	.140	.076	.073	.071	.046
13	24.11	13.71		.091	.187	.438	.534	.590	.637	.677	.704	.736	.778	.815	.861	.927	.222	.931	.888	.828	.778	.700	.580	.460	.330	.236	.169	.097	.091	.090	.069
14	22.74	11.77		.107	.203	.443	.537	.589	.628	.656	.669	.692	.721	.739	.778	.838	.918	.205	.933	.870	.821	.743	.626	.510	.374	.278	.201	.114	.094	.095	.073
15	20.26	9.94		.109	.211	.441	.534	.568	.597	.624	.632	.648	.671	.683	.714	.777	.857	.923	.225	.928	.862	.795	.680	.564	.423	.328	.245	.152	.125	.118	.097
16	17.43	8.48		.109	.214	.431	.513	.541	.560	.576	.572	.582	.600	.610	.636	.700	.784	.839	.909	.234	.913	.821	.721	.607	.476	.380	.264	.185	.146	.128	.101
17	14.22	7.51		.113	.201	.415	.491	.511	.514	.523	.510	.511	.525	.532	.553	.611	.698	.754	.798	.891	.226	.887	.760	.649	.526	.433	.331	.228	.182	.161	.125
18	10.71	6.99		.120	.182	.382	.453	.469	.456	.463	.447	.441	.443	.440	.449	.496	.572	.637	.695	.769	.872	.234	.857	.700	.569	.490	.392	.282	.232	.205	.163
19	7.39	6.60		.101	.153	.322	.383	.385	.367	.371	.351	.341	.334	.322	.327	.369	.434	.498	.566	.649	.725	.871	.240	.809	.637	.559	.462	.360	.290	.247	.192
20	4.75	6.67		.089	.125	.266	.319	.307	.294	.296	.273	.262	.246	.224	.223	.258	.318	.379	.448	.540	.628	.755	.884	.226	.789	.643	.546	.443	.360	.313	.258
21	2.87	7.13		.070	.112	.224	.266	.248	.238	.235	.210	.199	.175	.146	.147	.179	.233	.292	.351	.443	.536	.674	.780	.898	.207	.803	.617	.504	.425	.383	.324
22	1.78	7.77		.051	.091	.192	.232	.219	.209	.202	.178	.163	.133	.101	.101	.128	.175	.227	.281	.369	.463	.604	.715	.818	.928	.205	.795	.602	.498	.459	.406
23	1.35	8.55		.045	.074	.159	.195	.185	.171	.165	.139	.125	.095	.061	.056	.080	.124	.174	.222	.308	.402	.550	.671	.778	.860	.939	.234	.789	.619	.563	.512
24	1.36	9.51		.038	.060	.121	.157	.146	.132	.128	.106	.092	.060	.025	.019	.043	.083	.131	.173	.253	.346	.495	.619	.728	.816	.884	.951	.280	.814	.693	.617
25	1.81	10.73		.035	.053	.103	.133	.118	.104	.099	.078	.065	.034	-.001	-.008	.016	.057	.103	.142	.218	.309	.456	.573	.679	.776	.844	.903	.963	.347	.863	.734
26	2.55	12.34		.027	.043	.088	.107	.094	.080	.076	.054	.041	.009	-.024	-.032	-.007	.030	.076	.117	.193	.281	.417	.532	.634	.731	.803	.859	.913	.965	.387	.887
27	3.41	13.35		.022	.040	.072	.085	.073	.061	.057	.036	.022	-.011	-.044	-.050	-.027	.001	.043	.085	.157	.244	.375	.485	.586	.683	.758	.816	.870	.922	.972	.407

TABLE IV.14 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

SPRING

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3312

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / MERIDIONAL SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.49	-0.73	-1.09	-1.44	-1.66	-1.71	-1.72	-1.74	-1.77	-1.65	-1.36	-0.93	-0.14	0.79	1.20	1.32	1.21	1.03	0.72	0.27	0.01	-0.10	-0.18	-0.23	-0.22	-0.20	-0.25	-0.30
			SD	2.32	3.75	5.25	6.97	8.58	10.09	11.50	12.87	14.34	15.43	16.03	16.06	14.61	12.67	10.80	9.15	7.69	6.33	5.22	4.30	3.54	2.99	2.91	2.91	2.93	2.00	3.23	3.46
SFC	1.47	2.39		.489	.334	.186	.193	.191	.190	.184	.172	.175	.168	.164	.157	.147	.137	.147	.150	.139	.128	.125	.113	.094	.063	.024	.035	.036	.052	.062	.054
1	0.78	3.19		.300	-.108	.631	.576	.546	.531	.508	.487	.478	.469	.451	.434	.423	.411	.411	.397	.388	.350	.334	.326	.278	.215	.162	.145	.113	.088	.101	.087
2	2.62	4.85		.017	.392	-.019	.624	.758	.723	.698	.669	.649	.623	.591	.566	.550	.544	.540	.523	.502	.445	.391	.347	.277	.199	.136	.100	.063	.037	.058	.065
3	5.12	6.84		.067	.280	.797	-.012	.902	.842	.807	.773	.745	.717	.683	.656	.636	.623	.618	.609	.585	.531	.470	.392	.316	.239	.167	.128	.086	.063	.079	.088
4	7.84	8.31		.098	.298	.709	.895	.037	.937	.897	.859	.829	.801	.765	.739	.717	.702	.691	.681	.649	.587	.513	.422	.330	.232	.161	.124	.087	.074	.098	.102
5	10.65	9.33		.121	.302	.652	.828	.923	.960	.953	.913	.884	.856	.822	.792	.766	.744	.727	.714	.675	.511	.529	.435	.332	.231	.168	.125	.086	.075	.100	.099
6	12.57	10.28		.134	.304	.601	.769	.856	.937	.966	.959	.928	.899	.863	.830	.799	.772	.750	.733	.687	.520	.535	.437	.335	.229	.166	.126	.086	.078	.102	.099
7	14.73	11.56		.128	.308	.568	.725	.812	.887	.949	.103	.965	.931	.894	.855	.817	.783	.752	.733	.686	.519	.532	.436	.334	.226	.167	.128	.087	.089	.104	.100
8	17.07	12.58		.117	.284	.525	.680	.766	.840	.901	.957	.144	.970	.932	.891	.846	.805	.766	.745	.695	.528	.539	.440	.346	.233	.165	.129	.085	.087	.102	.091
9	19.31	13.35		.092	.258	.493	.638	.721	.791	.846	.903	.955	.186	.967	.924	.877	.830	.789	.761	.709	.543	.552	.447	.350	.238	.166	.120	.077	.081	.093	.085
10	21.79	14.07		.078	.230	.435	.591	.668	.734	.784	.840	.892	.948	.227	.964	.916	.861	.815	.786	.730	.561	.569	.459	.359	.240	.163	.117	.079	.079	.085	.087
11	24.25	14.36		.052	.196	.420	.545	.614	.675	.714	.768	.817	.875	.944	.226	.956	.898	.848	.819	.761	.588	.593	.475	.369	.246	.172	.121	.080	.077	.085	.092
12	25.40	13.09		.041	.170	.384	.508	.573	.626	.656	.706	.748	.804	.873	.938	.216	.945	.894	.862	.808	.738	.643	.522	.401	.266	.183	.134	.082	.074	.082	.086
13	25.68	11.21		.019	.164	.366	.498	.556	.598	.620	.657	.688	.734	.789	.842	.911	.203	.939	.907	.858	.791	.697	.570	.441	.288	.197	.138	.081	.070	.081	.085
14	23.24	9.58		.005	.158	.366	.495	.546	.578	.594	.621	.635	.664	.703	.746	.806	.894	.155	.943	.892	.829	.742	.608	.469	.318	.222	.147	.082	.071	.079	.075
15	20.44	8.26		.005	.160	.352	.483	.533	.561	.574	.591	.630	.616	.642	.677	.730	.810	.906	.130	.941	.867	.777	.648	.515	.357	.240	.163	.096	.082	.082	.074
16	17.27	7.45		.002	.147	.321	.453	.494	.519	.524	.542	.545	.552	.573	.604	.648	.722	.813	.909	.084	.917	.811	.681	.550	.395	.272	.186	.125	.100	.093	.081
17	13.62	6.81		-.010	.121	.298	.415	.440	.460	.460	.468	.468	.471	.487	.512	.549	.620	.718	.799	.887	.969	.884	.736	.593	.440	.313	.225	.154	.122	.113	.093
18	9.54	6.29		-.006	.126	.275	.381	.402	.418	.416	.417	.416	.416	.426	.445	.472	.549	.634	.710	.772	.872	.059	.843	.651	.495	.366	.281	.215	.167	.140	.117
19	6.63	5.89		-.008	.134	.274	.361	.371	.385	.378	.378	.372	.368	.376	.394	.417	.482	.562	.633	.697	.760	.877	.059	.786	.569	.419	.333	.259	.209	.186	.162
20	3.13	5.50		-.017	.130	.269	.337	.335	.342	.339	.338	.331	.320	.320	.335	.346	.400	.480	.545	.609	.565	.747	.861	.110	.723	.476	.384	.298	.242	.213	.194
21	1.16	5.16		.009	.124	.273	.341	.336	.347	.345	.339	.329	.320	.316	.325	.327	.375	.443	.505	.560	.515	.683	.742	.857	.105	.707	.499	.393	.337	.274	.238
22	0.18	5.07		.005	.102	.248	.311	.303	.319	.317	.314	.305	.293	.288	.286	.290	.331	.393	.449	.502	.564	.620	.673	.733	.858	.112	.719	.477	.401	.346	.307
23	-0.47	5.41		.007	.089	.215	.278	.278	.294	.293	.295	.287	.275	.263	.259	.259	.292	.347	.400	.450	.507	.553	.603	.654	.732	.873	.153	.715	.511	.440	.393
24	-0.70	5.33		.027	.088	.186	.243	.237	.251	.251	.254	.248	.237	.223	.218	.210	.233	.285	.337	.386	.439	.482	.531	.579	.646	.754	.891	.221	.740	.551	.468
25	-0.81	6.58		.028	.081	.167	.210	.203	.216	.216	.220	.214	.204	.190	.183	.170	.198	.253	.301	.341	.386	.429	.478	.530	.604	.690	.795	.917	.215	.767	.573
26	0.16	7.38		.033	.072	.154	.198	.190	.203	.208	.210	.201	.190	.172	.157	.146	.173	.230	.278	.312	.347	.387	.436	.491	.571	.657	.745	.838	.931	.196	.800
27	0.13	8.27		.026	.070	.147	.191	.188	.200	.205	.206	.196	.180	.159	.137	.124	.154	.210	.258	.294	.326	.364	.407	.462	.540	.627	.715	.796	.863	.943	.193

TABLE IV.15 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

SUMMER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3312

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.17	0.01	0.92	2.26	3.05	3.21	3.43	3.75	4.36	5.18	6.23	7.24	8.01	8.26	7.48	6.01	4.40	2.34	1.69	0.98	0.60	0.35	0.22	0.20	0.08	0.05	0.06	0.08
			SD	1.50	2.47	3.36	4.31	4.86	5.38	5.99	6.70	7.69	8.70	9.71	10.65	10.84	10.14	8.61	6.69	5.09	3.95	2.96	2.38	2.06	1.96	1.93	1.95	2.06	2.09	2.19	2.39
SFC	1.91	2.46		.548	.123	.069	.010	.023	.032	.036	.024	.017	.009	.009	-.001	-.013	-.037	-.046	-.035	.034	.120	.104	.072	.036	.035	.047	.066	.083	.080	.054	.037
1	0.36	2.71		.191	-.369	.436	.286	.240	.196	.190	.191	.196	.210	.223	.230	.227	.214	.190	.176	.194	.200	.190	.125	.104	.085	.069	.069	.050	.052	.066	.058
2	1.99	3.71		-.100	.300	-.271	.710	.537	.443	.398	.378	.367	.366	.364	.366	.360	.350	.333	.301	.289	.257	.234	.163	.098	.073	.054	.041	.015	.027	.050	.049
3	2.33	5.14		-.030	.111	.743	-.031	.792	.647	.565	.524	.488	.467	.455	.451	.443	.431	.417	.379	.341	.294	.243	.161	.097	.071	.034	.018	-.019	.008	.032	.028
4	2.77	5.93		.018	.047	.569	.856	.064	.841	.726	.665	.619	.591	.564	.549	.535	.522	.502	.464	.432	.363	.290	.198	.111	.072	.018	-.003	-.020	.011	.034	.030
5	3.28	6.33		.023	.024	.459	.726	.884	.085	.874	.791	.733	.697	.659	.629	.604	.580	.556	.528	.490	.414	.324	.216	.119	.077	.027	.013	-.005	.035	.051	.027
6	4.17	6.98		.018	.026	.403	.649	.796	.908	.112	.903	.840	.801	.755	.711	.672	.637	.612	.586	.533	.443	.347	.231	.127	.083	.038	.037	.016	.046	.060	.046
7	5.23	7.59		.011	.022	.365	.599	.745	.853	.933	.132	.929	.877	.825	.774	.735	.692	.661	.633	.566	.461	.362	.242	.139	.102	.056	.056	.040	.056	.061	.051
8	6.47	8.34		.011	.024	.349	.573	.711	.811	.885	.948	.163	.945	.890	.835	.782	.730	.690	.663	.589	.471	.360	.237	.136	.097	.052	.061	.045	.051	.060	.057
9	7.84	9.37		.001	.036	.330	.546	.675	.764	.837	.898	.951	.171	.950	.892	.834	.777	.728	.687	.609	.484	.371	.240	.151	.104	.056	.072	.057	.052	.066	.074
10	9.34	9.83		.007	.048	.310	.512	.638	.719	.790	.846	.899	.950	.168	.951	.894	.828	.766	.713	.622	.490	.366	.237	.152	.104	.054	.072	.057	.053	.073	.077
11	10.81	10.57		.012	.049	.304	.491	.610	.681	.743	.795	.845	.894	.953	.164	.948	.881	.807	.744	.644	.510	.383	.241	.156	.091	.037	.069	.065	.054	.065	.075
12	11.89	10.90		.009	.045	.298	.470	.584	.652	.707	.753	.796	.843	.900	.952	.168	.939	.866	.795	.688	.542	.411	.254	.164	.101	.033	.058	.051	.043	.069	.073
13	12.20	10.44		.005	.033	.284	.456	.572	.637	.679	.717	.751	.789	.840	.892	.942	.172	.925	.849	.737	.585	.447	.283	.186	.123	.041	.068	.056	.044	.064	.065
14	10.84	9.18		-.003	.022	.291	.463	.575	.636	.670	.701	.721	.747	.788	.831	.876	.931	.187	.911	.783	.535	.479	.308	.206	.146	.066	.081	.059	.041	.058	.057
15	8.07	7.50		-.058	-.006	.313	.471	.574	.635	.668	.688	.696	.707	.734	.770	.807	.855	.916	.171	.872	.595	.534	.355	.227	.159	.082	.103	.070	.043	.060	.047
16	4.61	6.17		-.072	-.000	.305	.449	.549	.610	.636	.647	.645	.643	.658	.681	.717	.765	.817	.903	.143	.802	.584	.411	.279	.191	.130	.125	.089	.075	.073	.056
17	0.86	5.34		.302	.011	.264	.403	.498	.563	.576	.579	.570	.556	.564	.579	.605	.648	.700	.766	.861	.122	.715	.435	.323	.230	.169	.152	.136	.099	.082	.074
18	-2.38	4.19		.062	.002	.247	.365	.447	.504	.510	.512	.494	.475	.477	.489	.512	.555	.606	.678	.742	.839	.048	.596	.322	.255	.204	.164	.143	.107	.075	.067
19	-5.00	3.54		.096	-.010	.220	.327	.396	.443	.451	.451	.438	.415	.412	.416	.439	.477	.530	.598	.659	.706	.803	.025	.507	.253	.229	.190	.146	.137	.120	.080
20	-7.06	3.41		.113	-.009	.194	.295	.353	.391	.395	.393	.383	.368	.370	.373	.391	.420	.464	.519	.586	.635	.672	.798	.044	.491	.183	.193	.182	.165	.157	.115
21	-8.77	3.31		.066	-.019	.183	.278	.336	.384	.391	.383	.379	.362	.355	.356	.368	.391	.436	.498	.545	.587	.617	.654	.793	.042	.485	.188	.144	.158	.135	.126
22	-10.10	3.39		.023	.004	.184	.258	.305	.349	.364	.361	.356	.341	.332	.334	.350	.371	.405	.464	.524	.556	.574	.608	.652	.806	.006	.511	.127	.105	.098	.124
23	-11.20	3.51		.005	.015	.177	.220	.257	.295	.312	.311	.313	.305	.301	.307	.332	.353	.385	.441	.501	.520	.543	.579	.611	.661	.828	-.046	.465	.167	.106	.157
24	-12.16	3.81		.016	.033	.173	.204	.226	.266	.274	.276	.281	.270	.268	.283	.309	.335	.373	.425	.482	.502	.528	.558	.572	.602	.682	.839	-.033	.540	.189	.155
25	-12.94	4.14		.022	.042	.174	.218	.238	.278	.281	.279	.282	.273	.272	.293	.316	.346	.382	.433	.469	.494	.510	.535	.547	.575	.626	.701	.860	-.013	.572	.275
26	-13.01	4.56		.007	.050	.188	.228	.252	.287	.295	.295	.296	.287	.288	.311	.332	.363	.393	.444	.477	.498	.499	.524	.532	.557	.603	.656	.736	.874	-.017	.627
27	-14.18	5.32		-.007	.060	.195	.223	.244	.274	.281	.279	.285	.280	.280	.306	.329	.362	.387	.429	.460	.470	.463	.479	.486	.516	.568	.614	.661	.739	.882	.906

TABLE IV.16 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

FALL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO - ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3276

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.05	-0.28	-0.07	-0.26	-0.48	-0.84	-0.98	-0.91	-0.80	-0.54	-0.25	0.27	1.05	1.64	1.83	1.57	0.99	0.37	-0.16	-0.43	-0.57	-0.60	-0.59	-0.48	-0.41	-0.33	-0.33	-0.32
			MERIDIONAL SD	2.19	3.21	4.71	6.49	7.85	9.07	10.49	11.88	13.28	14.47	15.34	15.46	14.85	13.37	11.54	9.63	7.74	6.07	4.78	3.81	3.23	2.94	2.78	2.76	2.87	2.94	3.04	3.31
SFC	0.76	2.53		.554	.222	.151	.189	.198	.190	.190	.183	.173	.173	.172	.164	.165	.165	.168	.171	.164	.159	.130	.078	.039	.018	-.004	.015	.033	.018	.048	.051
1	-0.12	2.96		.268	-.119	.646	.582	.576	.563	.540	.517	.505	.492	.473	.456	.440	.436	.442	.438	.420	.393	.368	.305	.232	.138	.080	.061	.068	.048	.057	.086
2	0.17	4.55		.003	.409	-.061	.825	.764	.718	.680	.656	.637	.618	.600	.583	.573	.567	.554	.563	.546	.493	.452	.354	.268	.178	.105	.082	.093	.080	.102	.115
3	1.49	6.30		.006	.248	.773	.033	.893	.824	.784	.754	.734	.714	.700	.683	.670	.656	.643	.650	.631	.575	.508	.389	.285	.187	.106	.101	.111	.081	.114	.131
4	3.19	7.43		.013	.225	.648	.875	.025	.922	.872	.840	.816	.795	.773	.752	.734	.715	.697	.700	.674	.609	.530	.404	.290	.184	.106	.112	.118	.087	.113	.127
5	4.74	8.36		.011	.207	.590	.802	.915	.038	.942	.904	.877	.851	.824	.800	.776	.752	.730	.727	.697	.627	.540	.410	.286	.186	.102	.113	.127	.105	.123	.146
6	6.21	9.41		.023	.196	.551	.751	.857	.938	.049	.954	.922	.893	.860	.831	.802	.772	.745	.737	.705	.631	.539	.408	.281	.185	.103	.109	.117	.093	.109	.144
7	7.69	10.51		.014	.185	.511	.703	.810	.884	.944	.982	.963	.929	.892	.856	.820	.782	.748	.737	.697	.616	.522	.393	.275	.182	.092	.098	.109	.086	.100	.138
8	9.33	11.79		.020	.183	.483	.662	.757	.831	.890	.948	.141	.967	.928	.889	.846	.804	.765	.747	.702	.621	.525	.397	.281	.184	.097	.095	.106	.084	.095	.127
9	10.99	12.59		.020	.177	.449	.618	.704	.774	.834	.893	.956	.197	.964	.923	.876	.829	.785	.761	.713	.633	.535	.403	.288	.183	.097	.100	.103	.077	.084	.114
10	12.91	13.47		.019	.166	.419	.580	.654	.719	.770	.830	.896	.954	.242	.962	.915	.866	.818	.791	.739	.658	.556	.416	.293	.186	.098	.098	.102	.080	.089	.117
11	14.89	14.32		.017	.155	.401	.547	.610	.667	.715	.769	.834	.894	.951	.281	.960	.911	.863	.832	.778	.691	.588	.449	.319	.208	.122	.116	.115	.089	.090	.120
12	16.39	13.87		.019	.143	.394	.526	.586	.635	.675	.723	.781	.836	.891	.947	.287	.951	.905	.874	.817	.728	.618	.475	.341	.221	.138	.127	.123	.092	.094	.122
13	16.63	12.58		.034	.156	.395	.527	.585	.627	.657	.693	.736	.777	.823	.877	.934	.266	.945	.913	.854	.766	.656	.510	.377	.248	.155	.136	.128	.100	.102	.127
14	15.61	11.24		.026	.145	.404	.538	.599	.629	.651	.680	.707	.729	.761	.807	.859	.929	.253	.945	.885	.805	.696	.559	.418	.284	.185	.156	.139	.111	.109	.131
15	13.53	9.38		.005	.141	.416	.562	.621	.650	.661	.674	.686	.697	.715	.748	.800	.869	.933	.221	.935	.843	.740	.604	.461	.319	.206	.172	.157	.124	.119	.144
16	10.87	8.33		-.019	.126	.400	.561	.625	.643	.643	.648	.647	.647	.654	.674	.717	.778	.840	.918	.192	.904	.784	.651	.501	.356	.246	.203	.174	.137	.130	.150
17	7.72	7.12		-.016	.112	.348	.515	.578	.585	.578	.576	.565	.554	.552	.561	.590	.644	.717	.792	.897	.164	.859	.683	.541	.395	.283	.231	.183	.137	.139	.148
18	4.74	6.56		-.021	.089	.293	.455	.507	.512	.506	.499	.478	.467	.464	.466	.481	.524	.599	.675	.779	.895	.175	.797	.593	.441	.313	.266	.207	.156	.153	.155
19	2.46	6.30		-.036	.074	.261	.415	.460	.466	.462	.449	.428	.412	.401	.400	.410	.445	.514	.596	.713	.816	.907	.175	.732	.495	.382	.310	.250	.179	.156	.137
20	0.83	5.58		-.061	.056	.213	.355	.392	.403	.398	.385	.368	.352	.343	.344	.348	.379	.440	.523	.637	.739	.798	.887	.147	.683	.434	.343	.270	.223	.191	.151
21	-0.10	5.48		-.078	.049	.184	.310	.338	.350	.348	.340	.319	.306	.300	.299	.296	.322	.381	.459	.570	.571	.738	.797	.885	.114	.645	.418	.346	.308	.268	.228
22	-0.42	5.76		-.097	.040	.158	.267	.293	.304	.300	.294	.280	.269	.263	.264	.262	.278	.329	.401	.510	.515	.686	.740	.793	.899	.090	.678	.426	.360	.332	.293
23	-0.52	6.35		-.103	.046	.122	.229	.251	.260	.257	.253	.241	.230	.230	.230	.229	.245	.290	.358	.462	.565	.630	.683	.742	.814	.919	.088	.687	.451	.378	.344
24	-0.35	7.33		-.122	.017	.077	.175	.193	.201	.198	.193	.183	.177	.178	.179	.176	.189	.230	.299	.404	.507	.571	.619	.686	.762	.849	.934	.088	.720	.497	.439
25	0.18	7.74		-.130	.004	.047	.140	.156	.163	.162	.158	.148	.143	.144	.145	.143	.153	.191	.257	.359	.465	.531	.578	.642	.721	.811	.877	.948	.100	.752	.553
26	0.56	8.68		-.129	-.002	.027	.124	.136	.143	.141	.137	.129	.125	.121	.123	.125	.129	.165	.232	.331	.437	.505	.551	.613	.688	.773	.836	.894	.955	.132	.780
27	1.77	9.70		-.136	-.017	.021	.117	.129	.134	.132	.127	.119	.114	.108	.107	.107	.110	.146	.211	.315	.424	.494	.535	.591	.665	.752	.810	.861	.912	.965	.144

TABLE IV. 17 INTERLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS ARE THE VALUES BETWEEN THE DIAGONAL LINES.

INTERLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND COMPONENTS USE VALUES ABOVE AND TO THE RIGHT OF THE DIAGONAL LINES.
FOR ZONAL WIND COMPONENTS USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES.

ANNUAL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 13152

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.24	-0.43	-0.46	-0.59	-0.61	-0.75	-0.79	-0.76	-0.68	-0.45	-0.10	0.40	1.17	1.79	1.90	1.58	1.04	0.50	-0.02	-0.39	-0.59	-0.68	-0.74	-0.72	-0.71	-0.67	-0.71	-0.69
			SD	2.25	3.44	4.87	6.77	8.17	9.37	10.61	11.92	13.40	14.60	15.51	15.81	14.94	13.36	11.49	9.53	7.81	6.27	5.07	4.16	3.53	3.22	3.11	3.10	3.18	3.33	3.59	3.91
SFC	1.06	2.74		.534	.236	.186	.221	.238	.233	.231	.219	.213	.209	.204	.195	.189	.185	.188	.195	.199	.195	.187	.171	.152	.135	.116	.124	.113	.105	.110	.099
1	0.19	3.20		.280	-.144	.647	.565	.545	.523	.507	.490	.477	.464	.443	.421	.401	.383	.377	.370	.367	.344	.325	.285	.230	.172	.128	.103	.076	.061	.067	.065
2	1.62	4.81		.032	.458	-.030	.825	.756	.713	.683	.657	.637	.616	.591	.568	.548	.533	.523	.517	.502	.464	.424	.357	.285	.215	.160	.124	.092	.076	.086	.083
3	3.31	6.62		.028	.306	.792	-.020	.900	.837	.797	.765	.741	.718	.695	.672	.649	.632	.621	.616	.596	.553	.499	.414	.335	.259	.195	.161	.123	.102	.114	.108
4	5.11	7.92		.037	.284	.681	.890	.001	.929	.881	.845	.817	.792	.762	.736	.709	.688	.673	.666	.642	.591	.529	.438	.348	.261	.196	.165	.129	.115	.128	.117
5	6.77	9.02		.039	.272	.613	.816	.923	.010	.945	.905	.875	.847	.812	.780	.748	.719	.700	.692	.664	.610	.541	.446	.347	.258	.194	.164	.128	.118	.128	.118
6	8.42	10.28		.042	.261	.568	.764	.866	.942	.027	.955	.921	.890	.851	.814	.775	.741	.717	.704	.671	.613	.542	.442	.340	.254	.190	.163	.126	.115	.124	.119
7	10.07	11.53		.036	.248	.530	.720	.823	.895	.952	.059	.964	.929	.887	.845	.801	.760	.728	.713	.675	.612	.538	.438	.338	.252	.187	.162	.125	.116	.120	.114
8	11.87	12.76		.035	.233	.500	.684	.783	.855	.910	.960	.098	.967	.925	.881	.830	.784	.746	.727	.685	.620	.542	.439	.343	.254	.186	.162	.125	.117	.119	.110
9	13.72	13.73		.024	.217	.471	.647	.742	.811	.864	.914	.962	.133	.963	.918	.865	.813	.772	.747	.700	.633	.553	.447	.350	.259	.189	.163	.125	.115	.118	.108
10	15.81	14.68		.016	.197	.436	.603	.695	.760	.811	.859	.908	.958	.151	.961	.909	.854	.808	.779	.726	.656	.570	.459	.359	.264	.192	.166	.128	.118	.121	.112
11	18.00	15.24		.001	.173	.405	.564	.651	.712	.759	.804	.850	.901	.955	.141	.955	.899	.849	.815	.756	.683	.593	.479	.375	.277	.206	.179	.140	.125	.127	.120
12	19.39	14.67		-.011	.151	.379	.537	.622	.680	.719	.758	.798	.845	.896	.950	.113	.947	.897	.860	.799	.722	.629	.510	.403	.296	.222	.192	.149	.131	.134	.127
13	19.49	13.17		-.018	.145	.367	.530	.613	.666	.697	.725	.755	.792	.833	.880	.538	.082	.942	.903	.844	.768	.675	.555	.446	.331	.249	.211	.163	.144	.147	.139
14	18.09	11.65		-.031	.140	.363	.530	.613	.659	.682	.702	.720	.743	.771	.812	.866	.932	.048	.942	.878	.807	.714	.595	.483	.366	.281	.233	.175	.150	.152	.141
15	15.56	10.22		-.059	.132	.352	.525	.605	.650	.670	.681	.690	.705	.724	.758	.811	.874	.936	.017	.933	.849	.760	.643	.528	.405	.313	.261	.199	.169	.166	.154
16	12.53	9.25		-.082	.121	.322	.498	.578	.621	.635	.639	.642	.649	.662	.691	.740	.802	.862	.923	-.016	.907	.799	.687	.571	.448	.356	.291	.225	.189	.178	.160
17	9.08	8.61		-.086	.105	.279	.456	.534	.574	.582	.581	.578	.580	.590	.614	.656	.715	.780	.846	.925	-.030	.873	.727	.611	.490	.396	.325	.253	.209	.196	.172
18	5.65	7.98		-.088	.090	.242	.415	.489	.525	.532	.528	.521	.520	.525	.544	.580	.635	.702	.775	.848	.924	-.031	.831	.660	.535	.444	.373	.296	.247	.225	.194
19	2.70	7.42		-.097	.075	.210	.375	.441	.475	.482	.475	.467	.461	.462	.479	.513	.563	.630	.708	.789	.852	.926	-.037	.780	.592	.501	.426	.347	.289	.260	.218
20	0.39	7.07		-.108	.059	.175	.330	.389	.422	.430	.422	.414	.405	.402	.418	.447	.494	.559	.638	.724	.791	.851	.922	-.039	.746	.555	.478	.398	.339	.306	.261
21	-1.23	7.05		-.116	.047	.149	.295	.350	.386	.393	.384	.375	.364	.359	.373	.399	.443	.505	.581	.667	.737	.801	.852	.923	-.042	.740	.548	.458	.405	.364	.316
22	-2.23	7.36		-.129	.034	.124	.261	.315	.352	.358	.350	.342	.329	.321	.334	.360	.399	.457	.531	.617	.690	.755	.808	.860	.936	-.040	.748	.529	.454	.421	.378
23	-2.73	7.97		-.132	.026	.097	.229	.283	.317	.324	.317	.310	.298	.290	.300	.325	.363	.419	.490	.575	.648	.714	.770	.824	.878	.946	-.018	.738	.549	.492	.452
24	-2.99	8.73		-.132	.017	.070	.196	.246	.280	.287	.281	.275	.263	.254	.266	.289	.324	.379	.449	.534	.607	.674	.732	.787	.842	.897	.954	.033	.766	.598	.530
25	-2.92	9.65		-.132	.012	.055	.176	.223	.256	.263	.257	.251	.240	.231	.242	.265	.301	.355	.423	.505	.578	.645	.701	.757	.817	.868	.912	.964	.079	.804	.640
26	-2.57	10.74		-.133	.007	.045	.162	.209	.241	.249	.243	.236	.224	.215	.224	.249	.283	.337	.406	.486	.557	.621	.677	.731	.791	.843	.884	.925	.968	.105	.832
27	-2.10	11.91		-.137	.004	.038	.152	.200	.231	.239	.232	.225	.212	.202	.210	.234	.266	.319	.387	.468	.539	.602	.654	.707	.767	.820	.861	.897	.933	.973	.127

TABLE V

Page

Crosslevel and Intralevel Coefficients of Linear Correlation between Wind Components, Santa Monica, California

TABLE VI CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

JANUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL SD	ALTITUDE (MSL)km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	MERIDIONAL MEAN			-1.01	-0.38	-1.31	-2.45	-2.85	-3.04	-3.22	-3.43	-3.52	-3.72	-3.89	-3.78	-3.21	-2.58	-1.95	-1.89	-1.82	-1.84	-2.21	-2.35	-2.39	-2.58	-2.73	-2.79	-2.72	-2.45	-2.44	-2.30
	SD			2.49	3.92	5.46	7.55	9.28	10.82	12.06	13.59	15.45	17.11	17.96	17.98	16.53	14.46	12.43	10.49	8.80	7.09	5.86	4.91	4.01	3.84	3.78	3.77	3.93	4.65	5.34	6.02
SFC	-0.95	2.42		.441	.322	.251	.215	.203	.178	.165	.136	.123	.129	.126	.132	.124	.127	.135	.106	.098	.093	.076	.035	.023	.035	.032	.027	.024	.028	.041	.046
1	-0.17	3.94		-.145	-.035	.236	.207	.224	.215	.203	.190	.190	.210	.193	.169	.145	.140	.146	.114	.098	.106	.094	.098	.095	.116	.119	.129	.124	.124	.137	.132
2	1.71	5.71		-.109	-.080	.120	.118	.151	.170	.164	.176	.193	.216	.210	.199	.183	.170	.182	.135	.134	.132	.116	.137	.114	.120	.123	.128	.131	.137	.155	.153
3	4.95	7.41		-.069	-.074	.106	.099	.126	.141	.137	.153	.174	.205	.202	.203	.198	.196	.202	.169	.167	.164	.134	.146	.129	.138	.134	.140	.145	.152	.173	.174
4	7.23	9.39		-.043	-.046	.152	.133	.169	.162	.152	.172	.187	.214	.216	.213	.208	.207	.209	.185	.187	.181	.147	.139	.125	.136	.130	.139	.139	.149	.173	.178
5	9.54	10.51		-.040	-.041	.157	.135	.179	.182	.166	.191	.209	.242	.242	.230	.214	.219	.220	.195	.192	.185	.150	.141	.132	.130	.122	.133	.132	.144	.168	.175
6	11.61	11.33		-.019	-.021	.162	.148	.192	.199	.189	.211	.226	.257	.255	.239	.220	.223	.215	.187	.187	.173	.137	.123	.103	.097	.091	.101	.100	.113	.139	.148
7	13.68	13.23		-.031	-.026	.157	.145	.185	.192	.198	.226	.241	.269	.267	.250	.228	.230	.221	.189	.186	.173	.131	.120	.104	.101	.097	.108	.106	.119	.145	.158
8	15.77	14.56		-.022	-.041	.142	.140	.175	.191	.197	.243	.268	.297	.295	.274	.246	.241	.233	.197	.180	.158	.118	.103	.087	.085	.081	.091	.088	.103	.128	.142
9	17.75	15.51		-.027	-.044	.134	.144	.177	.191	.202	.250	.281	.314	.319	.301	.273	.270	.261	.230	.208	.180	.135	.115	.097	.090	.086	.099	.099	.114	.139	.152
10	20.00	16.43		-.023	-.066	.098	.120	.152	.167	.177	.227	.261	.305	.317	.305	.275	.273	.264	.239	.217	.179	.130	.114	.092	.080	.079	.094	.096	.116	.141	.155
11	22.65	16.39		-.018	-.069	.078	.113	.141	.156	.165	.218	.254	.300	.310	.314	.295	.291	.275	.264	.241	.197	.151	.131	.103	.094	.089	.097	.102	.122	.146	.161
12	24.16	15.17		-.012	-.072	.082	.115	.138	.158	.167	.209	.243	.286	.291	.293	.295	.313	.293	.285	.272	.230	.177	.160	.136	.121	.114	.119	.124	.143	.167	.181
13	24.68	13.25		-.010	-.083	.082	.126	.144	.156	.158	.191	.220	.259	.264	.272	.273	.301	.309	.303	.300	.263	.222	.211	.188	.167	.157	.166	.166	.179	.199	.206
14	22.71	11.48		-.002	-.094	.081	.119	.135	.146	.148	.179	.208	.249	.253	.269	.275	.294	.302	.318	.317	.278	.235	.225	.198	.159	.148	.158	.153	.162	.180	.184
15	20.12	9.55		-.006	-.073	.100	.126	.136	.146	.143	.165	.190	.235	.242	.261	.271	.293	.284	.304	.341	.308	.272	.259	.233	.197	.174	.186	.178	.183	.197	.198
16	17.22	8.21		-.022	-.091	.095	.109	.124	.130	.124	.148	.169	.213	.223	.247	.258	.282	.272	.263	.306	.308	.264	.255	.230	.202	.177	.187	.179	.183	.194	.195
17	14.21	7.70		-.030	-.058	.102	.118	.132	.135	.122	.141	.162	.194	.196	.220	.233	.259	.271	.274	.294	.298	.281	.268	.251	.219	.200	.192	.180	.181	.189	.188
18	10.85	7.41		-.032	-.057	.094	.100	.098	.098	.086	.100	.113	.132	.128	.142	.149	.179	.207	.231	.274	.254	.275	.322	.311	.268	.235	.229	.211	.204	.204	.200
19	7.59	7.44		-.043	-.098	.068	.072	.067	.072	.070	.083	.090	.115	.108	.116	.122	.155	.178	.200	.240	.226	.224	.282	.319	.252	.208	.192	.167	.155	.151	.146
20	4.71	7.59		-.031	-.100	.047	.053	.053	.064	.065	.081	.083	.108	.104	.116	.133	.158	.197	.227	.271	.273	.273	.266	.298	.281	.254	.226	.197	.181	.168	.162
21	3.10	8.34		-.034	-.090	.018	.034	.040	.058	.062	.080	.083	.098	.094	.102	.119	.162	.195	.225	.282	.298	.304	.283	.278	.282	.278	.261	.218	.207	.186	.178
22	2.16	9.29		-.035	-.071	.032	.026	.045	.044	.047	.056	.053	.060	.057	.069	.084	.127	.165	.195	.248	.268	.291	.282	.286	.262	.248	.271	.239	.224	.195	.182
23	1.79	10.30		-.027	-.075	.010	.005	.006	.023	.032	.043	.037	.035	.032	.040	.058	.094	.125	.151	.214	.234	.257	.259	.288	.270	.256	.272	.269	.260	.230	.216
24	1.91	11.33		-.020	-.087	-.026	-.033	-.035	-.025	-.013	-.002	-.000	-.008	-.015	-.006	.023	.052	.091	.118	.170	.191	.245	.266	.322	.313	.323	.329	.331	.344	.322	.302
25	2.34	12.67		.034	-.049	.009	-.003	-.012	-.014	-.006	.000	.002	-.006	-.011	-.000	.035	.081	.127	.169	.200	.221	.293	.321	.371	.379	.400	.413	.413	.422	.415	.397
26	2.91	13.99		.032	-.082	.012	.000	-.008	-.018	-.004	.007	.013	.008	.013	.023	.053	.104	.149	.178	.215	.239	.302	.316	.363	.374	.407	.428	.435	.446	.438	.422
27	3.80	15.38		.039	-.092	-.024	-.037	-.042	-.047	-.039	-.033	-.026	-.028	-.024	-.017	.010	.063	.116	.145	.174	.215	.295	.312	.360	.380	.417	.446	.462	.479	.471	.459

TABLE V.2 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

FEBRUARY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1020

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL MEAN SD	ALTITUDE (MSL)km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.32	-0.84	-1.78	-3.08	-3.33	-3.79	-4.06	-4.24	-4.67	-4.86	-5.19	-5.33	-4.89	-4.14	-3.46	-2.91	-2.67	-2.34	-2.15	-2.04	-1.99	-1.81	-1.61	-1.41	-1.27	-1.38	-1.50	-1.40
			SD	2.33	4.47	6.21	8.32	9.99	11.43	12.64	14.33	16.03	17.15	18.14	18.21	16.59	14.71	12.74	10.61	9.05	7.65	6.29	5.18	4.52	4.33	4.03	3.87	3.86	4.06	4.37	5.11
SFC	0.44	2.57		-.386	.220	.127	.064	.063	.072	.067	.054	.046	.042	.045	.041	.047	.038	.039	.055	.043	.029	-.016	-.041	-.033	-.024	-.058	-.048	-.038	-.047	-.052	-.041
1	0.56	3.58		-.239	-.081	.160	.204	.187	.175	.162	.144	.134	.131	.125	.094	.087	.042	.003	.001	-.023	-.048	-.070	-.057	-.059	-.072	-.086	-.092	-.106	-.150	-.167	-.169
2	2.56	5.61		-.221	-.123	.107	.136	.145	.144	.152	.127	.127	.126	.131	.108	.099	.046	.020	.009	-.024	-.065	-.068	-.042	-.043	-.062	-.050	-.055	-.062	-.134	-.163	-.168
3	5.80	6.90		-.191	-.067	.148	.173	.159	.167	.175	.156	.159	.167	.182	.157	.138	.077	.041	.025	.001	-.032	-.046	-.032	-.036	-.055	-.054	-.062	-.093	-.149	-.182	-.184
4	8.66	8.16		-.149	-.026	.192	.200	.208	.204	.207	.188	.190	.204	.220	.187	.163	.100	.070	.052	.031	-.008	-.022	-.010	-.019	-.037	-.038	-.056	-.082	-.133	-.157	-.154
5	11.21	9.33		-.145	-.020	.198	.201	.210	.214	.212	.195	.191	.205	.222	.187	.162	.101	.066	.047	.023	-.002	-.001	.017	.021	.037	.039	-.013	-.044	-.097	-.125	-.122
6	13.53	11.07		-.136	-.001	.202	.205	.215	.222	.227	.213	.205	.220	.235	.195	.164	.103	.071	.055	.035	.009	.022	.045	.050	.035	.030	.006	-.024	-.077	-.107	-.108
7	15.69	12.57		-.121	.019	.193	.195	.211	.218	.233	.228	.220	.231	.245	.206	.169	.106	.072	.063	.036	.016	.026	.046	.050	.033	.025	-.003	-.032	-.082	-.112	-.112
8	18.24	14.28		-.105	.022	.193	.199	.215	.224	.242	.243	.236	.243	.253	.212	.167	.106	.077	.053	.040	.023	.036	.060	.068	.054	.045	.008	-.020	-.066	-.095	-.094
9	21.04	15.52		-.091	.006	.174	.196	.217	.228	.245	.248	.249	.257	.263	.226	.183	.116	.083	.063	.057	.041	.060	.083	.096	.080	.061	.015	-.014	-.065	-.100	-.101
10	24.32	16.59		-.080	-.016	.138	.172	.203	.216	.236	.243	.245	.257	.264	.231	.192	.116	.071	.048	.040	.027	.057	.074	.090	.072	.054	.013	-.013	-.066	-.103	-.101
11	27.66	16.89		-.060	-.021	.124	.177	.213	.221	.238	.246	.250	.261	.263	.231	.199	.130	.082	.055	.051	.045	.080	.102	.116	.101	.081	.042	.013	-.043	-.082	-.084
12	29.89	15.19		-.049	-.020	.112	.173	.209	.218	.234	.245	.247	.253	.251	.207	.173	.121	.081	.061	.066	.067	.110	.142	.162	.157	.133	.091	.059	-.004	-.043	-.048
13	29.51	12.51		-.037	-.000	.105	.170	.214	.222	.228	.240	.238	.244	.240	.197	.152	.113	.101	.088	.091	.087	.129	.166	.187	.185	.162	.112	.074	.002	-.038	-.041
14	27.44	10.93		-.064	-.012	.117	.187	.226	.233	.235	.248	.236	.237	.235	.205	.162	.100	.081	.090	.093	.099	.142	.162	.183	.186	.175	.122	.083	.012	-.030	-.030
15	24.27	9.29		-.056	-.012	.132	.206	.243	.247	.245	.256	.247	.256	.249	.215	.179	.129	.089	.103	.135	.135	.165	.191	.202	.199	.195	.144	.114	.049	.010	.010
16	20.78	7.94		-.046	.011	.157	.224	.254	.252	.249	.255	.244	.255	.253	.215	.172	.122	.094	.079	.100	.131	.168	.197	.209	.197	.190	.136	.102	.040	.007	.011
17	16.90	7.02		-.053	.018	.167	.234	.273	.256	.269	.273	.263	.272	.275	.239	.199	.142	.115	.110	.101	.120	.182	.203	.205	.188	.178	.131	.105	.047	.016	.017
18	12.46	6.25		-.052	.018	.178	.244	.274	.268	.267	.267	.261	.257	.254	.209	.186	.140	.115	.117	.108	.136	.137	.210	.220	.191	.189	.141	.111	.049	.021	.024
19	8.02	5.91		-.036	.036	.194	.265	.288	.291	.298	.297	.284	.277	.255	.200	.171	.129	.097	.101	.114	.121	.124	.174	.231	.190	.188	.139	.116	.062	.036	.033
20	5.47	6.32		-.054	-.011	.143	.201	.229	.228	.235	.231	.221	.216	.201	.158	.125	.100	.065	.074	.082	.108	.121	.115	.162	.175	.179	.134	.121	.069	.058	.049
21	2.76	6.82		-.071	-.067	.048	.122	.157	.151	.157	.162	.147	.148	.145	.126	.110	.102	.064	.075	.071	.086	.084	.072	.081	.154	.192	.142	.131	.085	.081	.063
22	1.22	7.30		-.059	-.060	.059	.123	.149	.146	.146	.147	.137	.127	.120	.099	.103	.098	.074	.061	.089	.121	.139	.156	.169	.193	.224	.217	.224	.170	.151	.133
23	0.17	7.84		-.034	-.011	.105	.159	.165	.150	.155	.138	.136	.127	.119	.106	.117	.128	.124	.113	.131	.172	.211	.229	.254	.272	.269	.278	.291	.258	.246	.230
24	-0.46	8.65		-.007	-.010	.120	.143	.143	.125	.128	.112	.109	.103	.100	.091	.095	.107	.120	.139	.163	.189	.249	.284	.298	.314	.313	.298	.326	.321	.337	.324
25	-0.66	9.54		-.013	-.057	.085	.098	.104	.092	.091	.084	.082	.077	.076	.079	.078	.105	.109	.138	.178	.205	.277	.327	.347	.371	.378	.378	.371	.372	.417	.422
26	-0.87	10.76		-.024	-.057	.073	.089	.099	.108	.108	.093	.080	.067	.060	.065	.076	.112	.115	.153	.196	.223	.303	.343	.363	.386	.397	.410	.415	.416	.450	.474
27	-0.79	12.32		-.035	-.051	.084	.082	.082	.113	.118	.105	.086	.084	.065	.064	.086	.133	.133	.160	.218	.253	.318	.355	.370	.377	.393	.427	.446	.449	.468	.484

TABLE V.3 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

MARCH

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.15	-1.10	-1.94	-3.01	-3.73	-3.99	-4.31	-4.58	-4.94	-5.03	-4.72	-4.15	-2.90	-1.88	-1.20	-0.94	-0.83	-0.81	-0.74	-0.91	-0.72	-0.63	-0.71	-0.71	-0.53	-0.50	-0.78	-0.87
			SD	2.56	4.19	5.58	7.53	8.91	10.33	11.61	12.86	14.19	15.09	15.50	15.39	13.66	11.65	9.91	8.27	6.99	5.71	4.77	4.09	3.43	3.02	3.06	3.10	3.11	3.13	3.35	3.59
SFC	0.45	2.93		.452	.156	.099	.100	.066	.041	.037	.044	.054	.052	.069	.057	.056	.062	.053	.044	.061	.048	.057	.065	.050	.045	.018	.027	.037	.034	.015	.013
1	0.73	3.53		-.024	-.120	.106	.110	.083	.063	.054	.070	.085	.100	.090	.066	.060	.076	.073	.070	.081	.066	.060	.081	.110	.093	.090	.100	.106	.084	.057	.064
2	2.63	5.18		-.123	-.195	-.033	-.031	-.020	-.024	-.026	-.007	.019	.047	.065	.061	.054	.063	.060	.047	.043	.029	.025	.029	.063	.043	.045	.064	.074	.058	.032	.033
3	5.61	7.31		-.103	-.155	.012	-.034	-.033	-.029	-.024	.003	.036	.071	.089	.088	.077	.084	.069	.056	.055	.036	.034	.026	.058	.039	.042	.068	.075	.056	.026	.028
4	8.60	8.48		-.077	-.127	.050	-.004	-.009	-.016	-.006	.021	.058	.099	.125	.120	.104	.112	.102	.084	.082	.071	.074	.069	.103	.084	.079	.102	.095	.070	.044	.047
5	11.29	9.70		-.075	-.109	.085	.033	.036	.021	.019	.043	.081	.120	.140	.132	.117	.127	.116	.104	.096	.094	.100	.092	.117	.098	.090	.105	.091	.070	.041	.043
6	13.76	10.30		-.072	-.106	.085	.050	.053	.043	.036	.059	.096	.140	.165	.161	.147	.151	.131	.119	.114	.105	.110	.106	.124	.104	.094	.105	.092	.071	.045	.045
7	15.98	12.33		-.058	-.104	.084	.064	.070	.068	.067	.082	.112	.154	.180	.175	.161	.161	.140	.129	.127	.120	.120	.116	.132	.120	.112	.117	.100	.081	.057	.060
8	18.13	13.34		-.046	-.098	.076	.062	.068	.069	.069	.094	.126	.169	.195	.188	.175	.173	.154	.144	.138	.135	.138	.128	.138	.119	.113	.118	.100	.083	.067	.071
9	20.98	14.24		-.043	-.104	.061	.061	.063	.066	.065	.091	.133	.179	.211	.204	.188	.187	.168	.154	.145	.145	.150	.143	.146	.116	.105	.121	.103	.088	.074	.077
10	23.96	15.45		-.015	-.092	.051	.057	.056	.064	.060	.085	.132	.177	.213	.220	.201	.202	.185	.167	.160	.154	.151	.146	.146	.107	.089	.104	.085	.077	.062	.065
11	27.18	16.39		-.005	-.082	.042	.039	.041	.048	.044	.074	.121	.168	.211	.231	.227	.222	.198	.180	.169	.164	.152	.143	.135	.097	.079	.086	.067	.058	.046	.046
12	28.58	14.21		.011	-.062	.067	.063	.064	.070	.057	.081	.121	.166	.205	.220	.216	.231	.208	.190	.184	.194	.190	.176	.168	.121	.094	.093	.072	.055	.042	.045
13	27.95	11.87		.015	-.061	.063	.081	.081	.081	.068	.083	.112	.142	.172	.185	.177	.202	.209	.191	.190	.208	.206	.191	.193	.151	.129	.119	.094	.069	.050	.059
14	25.94	10.38		.023	-.059	.099	.097	.091	.090	.079	.090	.115	.144	.165	.175	.174	.185	.198	.208	.207	.225	.220	.204	.217	.184	.157	.151	.128	.100	.079	.081
15	23.10	9.36		.033	-.050	.105	.099	.097	.101	.093	.097	.122	.150	.169	.180	.180	.204	.203	.222	.239	.240	.237	.226	.229	.207	.184	.171	.142	.112	.091	.092
16	19.97	7.94		.035	-.047	.094	.092	.091	.099	.082	.088	.105	.122	.137	.143	.145	.173	.180	.188	.205	.222	.229	.217	.228	.213	.194	.173	.149	.124	.102	.108
17	16.29	7.11		.024	-.026	.114	.105	.102	.103	.085	.092	.114	.128	.138	.138	.130	.162	.186	.200	.192	.205	.241	.241	.253	.245	.216	.193	.171	.145	.121	.125
18	12.34	6.37		.006	-.010	.142	.119	.108	.108	.090	.094	.115	.124	.117	.109	.100	.137	.166	.178	.176	.162	.177	.221	.245	.239	.219	.201	.176	.150	.123	.121
19	8.88	5.94		-.005	-.001	.140	.116	.111	.112	.095	.093	.113	.117	.103	.089	.088	.130	.157	.164	.160	.164	.144	.168	.249	.265	.221	.195	.177	.150	.119	.116
20	5.53	5.70		.041	.041	.103	.099	.099	.104	.098	.096	.117	.119	.103	.085	.067	.090	.104	.121	.128	.140	.118	.110	.186	.271	.233	.208	.194	.167	.130	.122
21	3.49	5.58		-.009	.038	.112	.121	.108	.118	.109	.105	.114	.111	.078	.056	.028	.034	.034	.032	.033	.043	.045	.048	.059	.140	.178	.175	.151	.131	.099	.082
22	1.94	5.58		-.074	.023	.086	.107	.106	.119	.121	.123	.123	.119	.082	.057	.022	.018	.010	-.005	.006	.027	.039	.035	.059	.081	.151	.185	.184	.161	.126	.107
23	1.51	6.30		-.044	.045	.059	.080	.075	.088	.106	.100	.098	.091	.055	.024	-.009	-.002	-.003	-.016	-.001	.023	.034	.063	.089	.132	.156	.188	.215	.198	.168	.154
24	0.92	7.24		-.010	.030	.094	.088	.095	.098	.101	.097	.087	.066	.020	-.019	-.040	-.027	-.006	-.004	.021	.028	.039	.074	.101	.170	.200	.203	.235	.264	.238	.218
25	0.90	8.27		.016	.048	.130	.127	.150	.148	.143	.136	.120	.096	.053	.008	-.008	.011	.029	.044	.074	.080	.075	.096	.137	.206	.243	.234	.224	.237	.240	.224
26	1.24	9.58		.023	.120	.177	.157	.150	.153	.151	.149	.135	.108	.059	.002	-.025	-.005	.034	.036	.067	.094	.084	.097	.131	.200	.247	.240	.227	.214	.212	.212
27	1.87	10.87		.016	.096	.172	.170	.153	.150	.159	.137	.119	.088	.031	-.006	-.027	-.001	.051	.063	.105	.122	.091	.111	.152	.219	.253	.251	.230	.190	.186	.187

TABLE V 4 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34° 01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

APRIL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.62	-0.80	-1.10	-1.78	-2.08	-2.39	-2.43	-2.56	-2.56	-2.58	-2.25	-2.06	-1.41	-0.25	0.36	0.56	0.50	0.55	0.51	0.39	0.19	0.07	0.06	0.00	0.02	0.10	0.24	0.27
			SD	2.35	3.95	4.99	6.72	8.23	9.75	11.07	12.59	14.36	15.65	16.47	16.57	15.45	13.58	11.67	10.03	8.49	7.14	6.06	5.05	4.12	3.46	3.22	3.21	3.20	3.30	3.51	3.78
SFC	1.54	2.97		.432	.111	.095	.063	.048	.044	.046	.036	.031	.026	.024	.014	.015	.028	.008	-.014	.020	.001	.016	.040	.056	.066	.059	.041	.012	-.017	-.029	-.028
1	1.00	3.23		.059	-.087	.203	.192	.170	.129	.131	.134	.159	.171	.191	.192	.194	.175	.092	.028	.010	.021	.059	.123	.152	.146	.104	.059	.029	-.015	-.033	-.049
2	2.61	4.95		-.106	-.108	.102	.090	.072	.057	.071	.078	.109	.121	.132	.116	.114	.112	.050	.017	-.042	-.013	.040	.088	.111	.093	.044	.013	-.008	-.049	-.061	-.081
3	4.87	6.90		-.107	-.048	.146	.104	.065	.058	.064	.074	.107	.118	.132	.127	.107	.101	.043	.003	-.037	-.014	.052	.092	.126	.115	.080	.052	.012	-.020	-.055	-.078
4	7.50	8.15		-.067	-.009	.210	.193	.145	.121	.112	.113	.139	.142	.157	.144	.138	.133	.089	.050	.014	.047	.111	.151	.164	.132	.083	.062	.029	-.002	-.027	-.049
5	10.71	9.27		-.044	.001	.241	.240	.207	.182	.168	.170	.191	.191	.209	.194	.188	.182	.141	.100	.065	.096	.155	.186	.182	.148	.111	.090	.055	.020	-.013	-.031
6	12.36	10.52		-.042	.004	.260	.270	.242	.228	.214	.211	.225	.230	.244	.222	.215	.220	.177	.137	.100	.131	.190	.209	.202	.162	.115	.095	.058	.020	-.009	-.024
7	14.59	12.04		-.029	.018	.268	.279	.257	.249	.244	.248	.262	.271	.279	.249	.240	.235	.198	.159	.125	.157	.200	.215	.206	.165	.123	.096	.061	.024	.001	-.017
8	16.95	13.16		-.042	.011	.280	.303	.283	.273	.274	.281	.301	.310	.318	.287	.275	.260	.221	.178	.149	.181	.218	.221	.208	.169	.119	.095	.054	.011	-.012	-.033
9	18.97	13.82		-.040	.001	.272	.305	.290	.276	.277	.284	.309	.327	.343	.316	.304	.281	.242	.200	.174	.209	.237	.235	.211	.172	.121	.094	.053	.003	-.016	-.040
10	21.04	14.30		-.021	.012	.271	.304	.298	.287	.295	.305	.333	.352	.370	.357	.340	.311	.266	.226	.207	.232	.251	.247	.228	.195	.124	.094	.046	-.002	-.019	-.048
11	23.04	14.15		-.003	.023	.266	.298	.292	.281	.292	.299	.323	.341	.365	.360	.355	.331	.278	.239	.220	.237	.246	.232	.215	.186	.113	.079	.024	-.014	-.025	-.055
12	24.17	12.95		.030	.036	.259	.295	.291	.283	.290	.295	.314	.329	.350	.349	.354	.343	.295	.254	.240	.249	.261	.244	.224	.187	.112	.066	-.001	-.041	-.048	-.079
13	24.23	10.99		.021	.052	.274	.311	.314	.304	.306	.306	.322	.329	.344	.341	.345	.350	.321	.289	.274	.288	.308	.292	.277	.215	.127	.066	-.011	-.053	-.063	-.095
14	22.84	9.33		.033	.069	.262	.296	.297	.290	.289	.281	.297	.303	.315	.311	.321	.316	.296	.290	.272	.288	.306	.296	.278	.213	.117	.045	-.034	-.079	-.082	-.112
15	20.46	7.51		.039	.074	.281	.304	.302	.297	.294	.290	.306	.313	.326	.326	.335	.327	.291	.268	.281	.290	.298	.291	.275	.211	.113	.035	-.050	-.098	-.112	-.138
16	17.74	6.76		.038	.083	.282	.305	.311	.305	.298	.292	.304	.315	.324	.320	.327	.318	.287	.267	.282	.295	.295	.289	.266	.198	.119	.041	-.050	-.099	-.121	-.148
17	14.32	6.11		.039	.088	.283	.313	.334	.328	.315	.316	.332	.346	.354	.349	.350	.323	.289	.267	.282	.275	.282	.272	.245	.174	.101	.042	-.039	-.079	-.099	-.125
18	10.57	5.72		.073	.116	.288	.323	.353	.356	.345	.348	.362	.373	.374	.369	.361	.326	.281	.268	.247	.249	.280	.293	.264	.198	.126	.045	-.033	-.061	-.076	-.101
19	7.09	5.31		.087	.120	.268	.308	.344	.349	.349	.357	.372	.383	.384	.374	.358	.317	.269	.245	.241	.233	.260	.285	.325	.256	.150	.066	-.013	-.043	-.083	-.104
20	4.23	4.86		.058	.114	.251	.294	.323	.328	.344	.351	.364	.366	.371	.357	.329	.307	.267	.226	.217	.218	.248	.294	.303	.306	.207	.105	.019	-.016	-.062	-.089
21	1.95	4.66		.033	.052	.199	.260	.271	.289	.298	.312	.326	.326	.339	.335	.311	.282	.232	.173	.174	.167	.182	.196	.183	.243	.269	.180	.068	.025	-.007	-.020
22	0.76	4.59		.035	.034	.144	.197	.234	.241	.247	.249	.258	.257	.267	.251	.233	.211	.185	.150	.146	.150	.160	.175	.146	.168	.246	.261	.174	.118	.071	.059
23	0.31	4.74		.052	.021	.128	.191	.220	.225	.221	.220	.227	.220	.227	.202	.192	.178	.165	.138	.154	.154	.167	.187	.190	.195	.215	.283	.303	.245	.181	.162
24	0.21	4.90		.058	.052	.166	.213	.224	.232	.223	.219	.229	.221	.223	.209	.209	.195	.175	.145	.167	.189	.198	.215	.221	.248	.287	.296	.333	.349	.301	.255
25	0.70	5.34		.062	.040	.172	.224	.222	.233	.224	.216	.219	.210	.209	.186	.184	.176	.158	.140	.149	.161	.164	.168	.166	.219	.280	.283	.283	.326	.353	.322
26	1.74	5.83		.052	.030	.134	.186	.185	.205	.194	.178	.180	.172	.169	.152	.142	.146	.122	.103	.109	.115	.125	.130	.128	.197	.235	.271	.306	.295	.314	.346
27	2.91	6.35		.058	.019	.081	.118	.134	.164	.162	.146	.146	.151	.149	.152	.143	.147	.134	.119	.106	.109	.124	.125	.126	.197	.240	.295	.329	.307	.288	.316

TABLE V.5 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

MAY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL)km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.01	-0.28	-0.22	0.46	0.83	1.24	1.57	1.88	2.16	2.64	2.86	3.39	3.84	4.47	4.42	4.30	3.93	3.33	2.40	1.33	0.56	0.27	0.13	0.03	-0.13	-0.20	-0.19	-0.29
			SD	1.82	2.97	4.35	6.11	7.93	9.43	10.00	12.28	13.52	14.51	15.15	15.25	13.82	11.87	9.99	8.28	6.70	5.30	4.18	3.32	2.85	2.33	2.32	2.28	2.41	2.47	2.70	2.85
SFC	1.94	2.30		.579	.120	-.070	-.035	-.051	-.030	-.014	-.025	-.022	-.026	-.020	-.007	-.025	-.065	-.053	-.039	-.052	-.034	-.016	.008	.047	.024	-.022	-.006	.019	.018	.022	.008
1	0.61	2.76		.185	-.112	.052	.112	.072	.051	.014	.009	.013	.019	.020	.023	-.015	-.059	-.096	-.115	-.125	-.136	-.115	-.072	-.011	.015	-.020	.012	.021	.014	.011	.012
2	2.61	4.39		.027	-.092	-.147	-.129	-.106	-.133	-.154	-.154	-.153	-.149	-.144	-.140	-.131	-.095	-.137	-.172	-.217	-.239	-.241	-.204	-.151	-.118	-.135	-.062	-.057	-.057	-.054	-.033
3	4.67	6.22		-.029	-.073	-.044	-.071	-.056	-.095	-.135	-.142	-.143	-.132	-.119	-.119	-.103	-.076	-.134	-.176	-.230	-.277	-.283	-.239	-.169	-.142	-.156	-.114	-.109	-.099	-.095	-.089
4	7.24	7.26		-.000	-.042	.041	.042	.039	-.009	-.050	-.059	-.060	-.053	-.033	-.035	-.028	-.019	-.083	-.121	-.166	-.214	-.233	-.198	-.155	-.137	-.160	-.122	-.095	-.086	-.067	-.059
5	9.43	7.93		.009	-.008	.058	.080	.089	.038	-.009	-.015	-.015	-.008	.011	.011	.023	.039	-.025	-.064	-.110	-.161	-.187	-.168	-.139	-.132	-.168	-.132	-.110	-.103	-.088	-.075
6	11.57	8.30		-.014	-.017	.055	.083	.088	.047	.005	.001	.002	.009	.029	.029	.037	.056	-.008	-.038	-.080	-.133	-.160	-.137	-.134	-.128	-.170	-.135	-.108	-.104	-.089	-.077
7	13.81	10.39		-.014	-.016	.059	.086	.092	.061	.026	.028	.025	.034	.059	.056	.061	.076	.012	-.020	-.063	-.114	-.135	-.121	-.131	-.124	-.162	-.134	-.105	-.101	-.088	-.075
8	15.74	10.97		-.008	-.025	.056	.088	.102	.071	.040	.053	.054	.066	.093	.086	.081	.089	.025	-.003	-.047	-.097	-.119	-.110	-.128	-.113	-.145	-.127	-.094	-.091	-.081	-.070
9	17.97	11.51		-.006	-.024	.061	.112	.121	.088	.054	.070	.081	.106	.134	.130	.127	.122	.052	.021	-.020	-.069	-.092	-.097	-.129	-.111	-.152	-.131	-.095	-.099	-.092	-.083
10	20.33	12.30		.001	-.039	.065	.116	.127	.092	.065	.083	.093	.125	.162	.168	.164	.149	.085	.049	.006	-.043	-.074	-.084	-.133	-.120	-.166	-.142	-.106	-.110	-.103	-.096
11	22.48	12.11		-.002	-.050	.067	.113	.117	.086	.059	.075	.085	.120	.162	.170	.177	.162	.087	.047	.011	-.029	-.057	-.068	-.138	-.125	-.165	-.138	-.103	-.110	-.098	-.091
12	23.41	11.34		-.006	-.058	.059	.110	.115	.086	.056	.061	.072	.107	.148	.161	.174	.168	.088	.043	-.002	-.033	-.059	-.069	-.150	-.136	-.180	-.150	-.116	-.125	-.115	-.111
13	23.44	10.10		-.002	-.045	.070	.117	.121	.097	.060	.057	.072	.101	.142	.160	.176	.180	.119	.067	.013	-.021	-.040	-.056	-.149	-.121	-.179	-.147	-.110	-.119	-.113	-.113
14	20.91	8.55		.019	-.010	.112	.147	.148	.113	.073	.066	.081	.105	.142	.159	.183	.175	.126	.110	.047	.005	-.022	-.028	-.123	-.114	-.177	-.145	-.109	-.111	-.096	-.100
15	17.77	7.19		.014	.026	.148	.174	.169	.121	.076	.064	.070	.095	.125	.140	.171	.168	.110	.098	.062	.008	-.031	-.045	-.130	-.114	-.186	-.150	-.112	-.112	-.096	-.102
16	14.13	6.32		.031	.053	.168	.191	.185	.140	.093	.077	.080	.101	.128	.137	.163	.156	.109	.083	.066	.050	-.002	-.023	-.116	-.119	-.170	-.132	-.094	-.104	-.089	-.093
17	10.26	5.56		.066	.080	.196	.217	.203	.162	.106	.092	.091	.104	.127	.136	.154	.135	.102	.085	.063	.063	.037	-.004	-.110	-.114	-.162	-.139	-.100	-.088	-.068	-.076
18	6.13	4.90		.078	.110	.219	.242	.235	.202	.149	.141	.133	.141	.153	.161	.167	.133	.115	.105	.096	.063	.057	.056	-.018	-.023	-.087	-.091	-.070	-.041	-.012	-.008
19	2.57	4.34		.032	.079	.152	.171	.147	.135	.095	.087	.075	.070	.078	.080	.078	.033	.026	.025	.026	-.019	-.061	-.010	.051	.019	-.034	-.043	-.058	-.051	-.018	-.000
20	-0.15	3.92		.001	.050	.145	.161	.174	.173	.138	.142	.120	.113	.109	.118	.109	.066	.058	.067	.089	.052	.024	.012	.028	.102	.040	.009	-.006	.001	.002	.017
21	-1.72	3.57		-.014	.029	.102	.110	.110	.116	.109	.109	.092	.073	.068	.051	.034	-.017	-.026	.000	.036	.010	-.010	-.022	-.010	.082	.102	.070	.050	.014	.001	.012
22	-2.90	3.53		-.016	-.040	.014	.037	.042	.043	.026	.033	.035	.018	.034	.018	.012	-.039	-.058	-.042	-.039	-.012	-.033	-.049	-.039	-.080	.049	.140	.092	.042	.020	.025
23	-3.12	3.90		.017	-.059	.029	.020	.017	.030	.010	.018	.013	-.002	-.009	-.012	-.045	-.102	-.110	-.097	-.044	-.033	-.031	-.001	-.008	-.034	-.047	.075	.182	.163	.106	.082
24	-3.11	4.38		.021	-.034	-.000	.002	-.018	.013	.008	.032	.016	.008	-.010	-.023	-.064	-.096	-.094	-.093	-.044	-.035	-.042	-.031	.006	.000	-.030	-.015	.149	.220	.149	.105
25	-3.09	4.72		.041	-.064	-.017	.002	-.002	.025	.022	.043	.030	.027	.014	-.016	-.046	-.082	-.087	-.101	-.084	-.060	-.072	-.038	-.012	-.026	-.034	-.036	.023	.082	.131	.108
26	-2.73	4.98		.031	-.075	-.041	-.008	-.028	-.022	-.027	-.007	-.022	-.024	-.040	-.063	-.086	-.108	-.116	-.124	-.104	-.382	-.088	-.066	-.002	-.025	-.037	-.013	.001	-.006	.060	.095
27	-2.23	5.57		-.008	-.057	-.056	-.047	-.053	-.062	-.068	-.051	-.065	-.060	-.066	-.080	-.095	-.105	-.120	-.133	-.111	-.108	-.111	-.111	-.056	-.057	-.100	-.063	-.053	-.063	-.042	.017

TABLE V.6 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

JUNE

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL MEAN SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.12	-0.53	-0.22	0.88	1.52	1.66	1.60	1.63	1.97	2.40	2.85	3.41	4.28	5.19	5.38	4.77	3.86	2.90	1.85	1.08	0.59	0.30	0.15	0.05	-0.04	-0.13	-0.14	-0.11
			SD	1.54	2.79	3.68	4.81	5.68	6.60	7.34	8.22	9.52	10.80	11.93	12.90	13.10	12.11	10.29	7.97	5.99	4.63	3.49	2.64	2.26	2.03	1.94	1.99	2.15	2.18	2.16	2.27
SFC	1.92	2.58		.521	.093	-.085	-.058	-.045	-.063	-.077	-.071	-.066	-.067	-.054	-.049	-.055	-.048	-.065	-.076	-.111	-.044	.028	.078	.084	.043	-.006	-.010	.027	.032	-.005	-.026
1	0.54	2.85		.194	-.279	-.032	.084	.101	.052	.019	.018	.040	.040	.050	.049	.035	.010	-.019	-.026	-.062	-.089	-.067	-.016	.004	-.008	-.000	.009	.013	.005	-.020	-.018
2	2.65	4.17		.077	-.140	-.204	-.148	-.151	-.175	-.178	-.184	-.151	-.115	-.071	-.057	-.063	-.050	-.077	-.113	-.144	-.187	-.201	-.177	-.151	-.142	-.130	-.114	-.115	-.053	-.014	-.001
3	3.49	5.98		.009	-.039	-.076	-.062	-.133	-.177	-.195	-.207	-.176	-.149	-.099	-.080	-.069	-.063	-.088	-.147	-.179	-.210	-.218	-.195	-.167	-.161	-.147	-.114	-.092	-.018	.022	.040
4	4.48	6.84		.033	.032	.073	.121	.034	-.042	-.079	-.100	-.073	-.056	-.022	-.012	-.009	-.010	-.035	-.094	-.131	-.168	-.195	-.167	-.132	-.121	-.119	-.116	-.099	-.040	.002	.020
5	5.49	7.23		.014	.085	.120	.198	.143	.074	.025	.010	.028	.042	.075	.082	.077	.067	.031	-.029	-.071	-.138	-.171	-.157	-.132	-.109	-.129	-.143	-.126	-.067	-.034	-.026
6	6.68	8.30		.027	.080	.146	.223	.184	.146	.108	.087	.109	.125	.157	.159	.151	.148	.100	.033	-.034	-.115	-.151	-.137	-.117	-.093	-.120	-.123	-.121	-.063	-.048	-.053
7	7.88	8.55		.013	.053	.136	.242	.220	.186	.161	.152	.175	.193	.224	.231	.224	.217	.165	.091	.024	-.067	-.123	-.114	-.105	-.092	-.113	-.133	-.122	-.059	-.039	-.044
8	9.26	9.51		-.002	.036	.132	.241	.226	.201	.187	.181	.212	.233	.266	.276	.265	.250	.198	.125	.049	-.033	-.115	-.121	-.101	-.081	-.114	-.134	-.117	-.054	-.030	-.044
9	10.66	10.36		-.005	.019	.119	.233	.225	.204	.193	.186	.227	.250	.287	.300	.285	.264	.210	.141	.054	-.054	-.118	-.126	-.101	-.079	-.124	-.139	-.119	-.057	-.041	-.050
10	12.40	11.37		-.001	.009	.111	.230	.231	.202	.186	.185	.224	.257	.304	.325	.312	.288	.228	.155	.054	-.059	-.116	-.133	-.110	-.087	-.132	-.141	-.127	-.070	-.055	-.056
11	14.41	11.73		.016	.005	.100	.223	.231	.206	.192	.192	.233	.270	.324	.358	.354	.326	.257	.180	.069	-.047	-.109	-.137	-.116	-.087	-.126	-.135	-.120	-.063	-.048	-.050
12	16.04	11.53		.019	.003	.088	.215	.226	.198	.195	.196	.235	.275	.331	.376	.380	.368	.299	.212	.095	-.031	-.105	-.135	-.128	-.099	-.129	-.136	-.123	-.072	-.047	-.059
13	16.87	10.58		.012	-.027	.082	.209	.237	.214	.214	.215	.246	.280	.337	.381	.385	.379	.331	.244	.130	-.011	-.091	-.118	-.106	-.086	-.121	-.130	-.113	-.064	-.037	-.057
14	15.56	9.32		.010	-.026	.087	.204	.240	.221	.218	.220	.252	.285	.335	.367	.371	.371	.339	.276	.163	.019	-.060	-.080	-.068	-.061	-.097	-.104	-.088	-.050	-.018	-.040
15	12.36	7.25		.011	-.019	.103	.209	.235	.227	.222	.224	.252	.281	.322	.350	.355	.358	.317	.273	.185	.032	-.050	-.069	-.060	-.044	-.084	-.091	-.068	-.036	.007	-.017
16	8.45	5.99		.040	-.012	.096	.194	.224	.226	.220	.226	.251	.270	.307	.334	.333	.325	.287	.234	.178	.077	-.010	-.044	-.040	-.014	-.046	-.054	-.032	-.003	.033	.016
17	4.38	5.31		.098	-.045	.048	.142	.181	.203	.200	.214	.247	.250	.280	.297	.286	.262	.223	.184	.118	.069	.042	.007	-.013	.012	-.044	-.049	-.010	.024	.064	.048
18	0.39	4.31		.104	-.049	-.010	.066	.107	.130	.139	.163	.191	.195	.217	.232	.221	.200	.148	.109	.060	-.018	.007	.040	.030	.011	-.040	-.055	-.014	.008	.028	.020
19	-3.04	3.57		.034	-.105	-.011	.036	.048	.065	.066	.070	.093	.095	.107	.117	.113	.091	.057	.030	.006	-.046	-.101	-.021	.055	.015	-.073	-.090	-.053	-.033	-.003	-.007
20	-5.91	3.47		-.051	-.130	-.003	.053	.071	.091	.100	.105	.113	.100	.104	.108	.106	.082	.072	.058	.051	.007	-.011	-.025	.080	.175	.055	-.018	-.009	-.012	.027	.036
21	-6.96	3.34		-.036	-.096	-.024	.016	.039	.048	.061	.070	.068	.053	.065	.065	.071	.037	.035	.041	.047	.005	.006	.030	-.049	.035	.088	-.002	.005	.021	.025	.010
22	-7.88	3.35		.003	-.065	-.051	-.049	-.039	-.026	-.002	.004	-.007	-.026	-.016	-.006	.001	-.028	-.021	-.029	-.032	-.020	.001	.015	-.025	-.112	-.003	.083	.096	.059	.037	.037
23	-8.62	3.51		.062	-.041	-.002	-.002	.005	.034	.028	.044	.032	.013	.022	.022	.025	.008	-.008	.015	.000	-.019	-.010	-.004	.014	-.048	-.140	-.058	.083	.047	-.001	-.032
24	-9.25	3.57		.083	.010	.059	.046	.049	.034	.019	.043	.043	.039	.054	.038	.035	.020	-.003	-.012	-.018	-.019	-.020	-.019	.028	.052	-.028	-.094	-.027	.042	.062	.067
25	-9.75	3.86		.028	-.038	.007	.042	.034	.035	.025	.030	.029	.027	.040	.024	.019	.014	-.008	-.028	-.024	-.008	-.009	-.004	.025	.012	-.018	-.087	-.091	-.027	.121	.034
26	-10.08	4.26		-.041	-.001	.071	.085	.073	.069	.045	.051	.039	.042	.053	.041	.014	.015	-.001	-.017	-.003	-.002	-.027	-.028	.015	.002	-.025	-.041	-.070	-.092	.030	.125
27	-10.41	4.79		.003	.015	.076	.130	.134	.122	.103	.101	.108	.115	.112	.098	.078	.053	.029	.035	.044	.022	.005	.011	.026	.019	.012	.014	-.012	-.062	-.013	.095

TABLE V.7 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34° 01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

JULY

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	1.22	0.21	1.31	2.97	3.00	4.31	4.82	5.24	5.00	6.87	8.20	9.42	9.89	9.64	8.39	6.63	4.72	3.00	1.80	1.14	0.72	0.50	0.40	0.33	0.23	0.21	0.27	0.29
			SD	1.48	2.22	3.11	3.98	4.15	4.43	4.96	5.69	6.49	7.29	8.03	8.87	9.13	8.96	7.79	6.04	4.57	3.63	2.79	2.31	1.90	1.97	1.91	1.84	2.07	2.04	2.25	2.53
SFC	1.22	2.39		.541	.155	-.118	-.078	-.027	-.058	-.075	-.085	-.096	-.097	-.083	-.076	-.062	-.059	-.060	-.126	-.144	-.161	-.007	.011	.053	.013	-.038	-.084	-.067	-.047	-.024	-.017
1	0.21	2.51		.181	-.426	-.191	-.017	.052	.080	.081	.086	.093	.088	.080	.089	.073	.056	.060	.026	.026	.048	.102	.158	.142	.095	.073	.076	.089	.094	.090	.047
2	1.31	3.53		.117	-.235	-.294	-.124	-.044	.032	.074	.095	.120	.130	.120	.119	.106	.081	.079	.047	.025	.011	.009	.075	.051	.043	.057	.064	.038	.038	.021	.046
3	1.97	4.57		-.005	-.088	-.056	.070	.076	.078	.105	.118	.147	.178	.166	.187	.173	.152	.151	.136	.082	.067	.031	.053	.050	.059	.060	.068	.052	.085	.056	.086
4	2.17	5.21		.002	.008	.093	.196	.175	.154	.144	.134	.156	.169	.146	.157	.153	.132	.159	.135	.061	.052	.017	.047	.075	.093	.090	.073	.056	.098	.079	.114
5	2.17	5.56		.034	.076	.154	.249	.201	.193	.185	.163	.176	.183	.151	.149	.148	.123	.158	.144	.081	.081	.040	.075	.130	.138	.117	.100	.073	.106	.114	.138
6	2.10	6.12		.030	.097	.129	.204	.200	.218	.248	.234	.244	.240	.212	.218	.220	.189	.202	.198	.143	.130	.098	.142	.179	.181	.141	.121	.076	.120	.149	.166
7	4.44	6.67		.025	.077	.091	.168	.188	.228	.264	.261	.269	.250	.219	.224	.225	.195	.200	.211	.166	.165	.131	.180	.183	.181	.137	.103	.080	.120	.144	.142
8	5.26	7.33		.026	.046	.041	.130	.167	.220	.270	.273	.287	.264	.232	.235	.238	.198	.207	.213	.176	.192	.155	.194	.183	.180	.157	.128	.094	.117	.131	.117
9	6.03	7.96		.012	.026	.018	.121	.159	.215	.262	.258	.275	.264	.229	.229	.230	.191	.201	.205	.165	.190	.158	.200	.181	.175	.152	.145	.120	.113	.130	.130
10	8.16	8.57		-.003	-.014	-.006	.095	.154	.212	.265	.257	.273	.264	.239	.243	.252	.218	.228	.231	.186	.208	.174	.211	.192	.176	.165	.161	.135	.117	.129	.134
11	9.21	9.11		-.010	-.029	-.014	.091	.155	.205	.251	.252	.260	.253	.232	.243	.267	.249	.256	.247	.200	.212	.184	.216	.185	.172	.169	.173	.148	.129	.135	.133
12	9.45	9.35		-.029	-.041	.014	.122	.181	.229	.256	.249	.255	.247	.230	.249	.284	.290	.293	.285	.233	.237	.201	.237	.201	.194	.193	.201	.183	.152	.153	.160
13	9.91	9.08		-.045	-.017	.046	.165	.219	.266	.289	.278	.285	.278	.267	.276	.307	.324	.356	.352	.287	.269	.227	.263	.217	.211	.206	.203	.184	.158	.157	.175
14	8.49	8.22		-.058	.014	.088	.212	.261	.303	.328	.310	.311	.306	.286	.290	.318	.324	.368	.414	.344	.322	.263	.295	.244	.231	.221	.212	.196	.180	.178	.192
15	5.74	6.75		-.032	.099	.130	.256	.298	.324	.310	.300	.294	.291	.275	.271	.300	.309	.335	.384	.395	.355	.280	.290	.243	.223	.203	.206	.182	.163	.176	.197
16	2.50	5.37		.095	.126	.136	.279	.321	.319	.295	.275	.259	.258	.229	.213	.236	.258	.296	.282	.325	.370	.277	.260	.226	.205	.173	.169	.139	.124	.137	.157
17	-1.27	4.27		.183	.075	.121	.260	.286	.270	.248	.233	.214	.223	.199	.177	.201	.223	.264	.250	.201	.276	.274	.240	.204	.205	.157	.114	.091	.106	.125	.134
18	-4.29	3.49		.148	.014	.072	.179	.199	.174	.143	.131	.134	.132	.109	.084	.104	.114	.144	.136	.112	.086	.144	.235	.173	.135	.105	.060	.011	.048	.085	.084
19	-6.70	3.16		.087	-.051	.071	.136	.138	.116	.086	.077	.071	.055	.040	.023	.047	.062	.072	.082	.091	.061	.000	.117	.206	.101	.057	.021	-.011	-.023	-.030	-.022
20	-8.67	2.85		.024	-.105	.025	.113	.115	.099	.076	.066	.055	.051	.029	-.002	.013	.004	.019	.046	.038	.052	.017	-.070	.048	.184	.079	-.004	-.028	-.023	-.043	-.040
21	-10.26	2.85		-.023	-.125	.042	.090	.113	.099	.089	.075	.067	.087	.067	.037	.045	.034	.057	.074	.073	.073	.076	.029	-.031	.118	.200	.083	.009	.001	-.012	-.019
22	-11.81	2.82		.008	-.063	.092	.078	.074	.075	.055	.027	.025	.034	.025	.014	.023	.019	.028	.032	.039	.036	.001	.031	.027	-.064	.048	.139	.085	.034	-.014	-.008
23	-12.84	2.89		.070	-.003	.056	.073	.058	.053	.030	.001	.009	.019	.008	.004	.004	.002	.003	-.001	.011	.025	.026	.026	.022	-.015	-.089	.010	.144	.142	.045	.036
24	-13.94	3.10		.116	.009	.001	.050	.049	.026	.011	.012	.017	.008	.002	.010	-.006	-.010	.008	.013	.015	.061	.084	.060	.065	.078	-.020	-.102	.028	.180	.175	.124
25	-14.81	3.51		.115	-.028	.004	.047	.051	.015	.020	.017	.029	.025	.012	.013	-.001	-.001	.010	.013	.022	.050	.062	.065	.077	.105	.031	-.056	-.073	.024	.146	.113
26	-15.66	3.85		.083	-.007	.000	.033	.034	.002	.006	-.002	-.004	.002	.005	.027	.032	.042	.042	.046	.048	.045	.041	.077	.075	.081	.041	-.002	-.087	-.103	.030	.140
27	-16.66	4.22		.055	-.049	-.023	-.009	-.001	-.019	-.025	-.025	-.019	-.010	.003	.038	.049	.057	.053	.031	.032	.035	.023	.045	.033	.047	.031	-.008	-.076	-.149	-.108	.050

TABLE V. 8 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

AUGUST

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL SD	1.18	0.34	1.62	2.89	3.58	3.62	3.82	4.30	5.02	6.18	7.55	8.77	9.73	9.84	8.59	6.59	4.61	2.63	1.40	0.74	0.50	0.26	0.12	0.21	0.06	0.07	0.05	0.05
				1.47	2.27	2.96	3.76	4.26	4.52	4.96	5.34	6.07	6.87	7.82	8.71	8.92	8.33	7.10	5.72	4.55	3.50	2.52	2.15	1.93	1.86	1.93	2.01	1.95	2.05	2.13	2.36
SFC	1.88	2.42	.584	.158	-.130	-.041	-.006	-.020	-.035	-.036	-.049	-.046	-.053	-.047	-.052	-.054	-.066	-.141	-.166	-.356	-.037	.002	-.014	-.055	-.078	-.088	-.054	-.049	-.021	-.013
1	0.23	2.56	.149	-.424	-.167	.040	.068	.069	.044	.038	.030	.038	.048	.044	.033	.042	.040	.047	.037	.041	.056	.087	.121	.095	.044	.056	.027	-.022	-.036	-.022
2	1.54	3.30	.039	-.204	-.270	-.114	-.042	.006	.026	.048	.041	.061	.067	.060	.038	.042	.030	.012	-.026	-.048	-.055	-.024	-.001	-.003	-.009	-.042	-.041	-.037	-.066	-.082
3	1.56	4.47	-.048	-.075	-.075	.041	.064	.090	.099	.116	.123	.145	.142	.134	.117	.115	.103	.067	.025	-.067	-.070	-.061	.005	.019	.011	.005	.004	.009	-.035	-.050
4	1.71	5.26	-.008	.056	.054	.160	.182	.170	.161	.176	.186	.193	.179	.154	.126	.124	.121	.057	.013	-.069	-.063	-.064	.001	.022	.042	.053	.051	.037	-.006	-.025
5	2.14	5.51	.010	.105	.055	.166	.192	.215	.211	.208	.215	.224	.194	.153	.121	.110	.093	.023	-.025	-.083	-.086	-.081	-.025	-.032	-.009	.012	.015	-.007	-.056	-.045
6	2.91	5.30	.046	.155	.070	.159	.181	.221	.227	.222	.227	.231	.195	.149	.110	.094	.064	.012	-.029	-.075	-.052	-.056	-.024	-.026	-.020	.016	.011	.007	-.044	-.038
7	3.86	6.61	.055	.144	.048	.140	.155	.186	.200	.212	.206	.212	.174	.122	.088	.056	.033	-.022	-.049	-.087	-.059	-.041	-.016	-.015	-.014	.008	.008	.013	-.033	-.035
8	4.98	7.22	.047	.132	.051	.151	.149	.181	.172	.174	.181	.181	.139	.076	.041	.011	-.007	-.065	-.078	-.098	-.061	-.040	-.012	-.020	-.007	.020	.016	.020	-.022	-.020
9	6.34	8.10	.041	.099	.041	.146	.142	.162	.150	.140	.143	.157	.108	.048	.012	-.016	-.027	-.081	-.082	-.083	-.041	-.025	-.005	-.003	.015	.029	.005	.013	-.018	-.014
10	7.65	8.99	.030	.056	.051	.142	.133	.146	.135	.122	.115	.135	.101	.043	.016	-.021	-.030	-.083	-.078	-.075	-.036	-.041	-.023	-.026	-.004	.020	-.003	.008	-.012	.005
11	8.93	9.83	.017	.030	.054	.139	.132	.132	.106	.087	.080	.095	.069	.027	.006	-.023	-.030	-.075	-.065	-.057	-.032	-.029	-.021	-.022	.001	.028	.011	.032	.019	.031
12	9.60	10.56	-.019	.090	.051	.151	.138	.137	.120	.104	.091	.107	.077	.028	.012	-.014	-.022	-.051	-.036	-.030	-.004	-.006	.009	.015	.032	.052	.025	.039	.027	.045
13	9.98	9.98	-.039	.016	.064	.155	.157	.168	.167	.148	.132	.139	.112	.069	.033	.011	-.019	-.006	.008	-.001	.007	-.002	.033	.043	.069	.061	.045	.068	.060	.070
14	8.62	8.46	-.055	.042	.097	.169	.170	.190	.198	.191	.183	.188	.162	.126	.103	.061	.067	.070	.086	.055	.042	.028	.061	.083	.103	.116	.075	.094	.066	.090
15	6.24	6.54	-.013	.110	.100	.173	.171	.200	.203	.194	.188	.189	.165	.130	.099	.062	.039	.055	.119	.096	.067	.052	.079	.086	.107	.144	.120	.117	.066	.091
16	3.20	5.29	.112	.137	.041	.163	.201	.223	.200	.197	.190	.196	.181	.146	.115	.092	.071	.064	.096	.174	.100	.066	.097	.074	.080	.104	.094	.105	.061	.073
17	-0.12	4.15	.180	.067	-.026	.122	.157	.184	.172	.154	.145	.150	.143	.113	.087	.072	.048	-.001	-.036	.093	.089	.027	.050	.040	.021	.044	.050	.052	.054	.074
18	-2.87	3.48	.134	.003	-.030	.097	.144	.155	.146	.121	.097	.098	.089	.065	.040	.040	.040	-.009	-.025	-.036	-.005	.032	.008	-.017	-.023	-.009	-.018	-.011	-.022	-.004
19	-5.20	3.11	.086	-.082	-.064	.086	.130	.107	.103	.093	.081	.080	.060	.036	-.007	-.002	.020	-.017	-.013	-.009	-.134	.001	.137	.015	-.034	-.049	-.054	-.044	-.069	-.070
20	-7.16	3.03	.047	-.097	.013	.139	.190	.176	.172	.162	.144	.122	.090	.078	.037	.047	.094	.069	.051	.059	.018	-.051	.042	.119	.013	-.097	-.118	-.082	-.081	-.077
21	-9.04	2.83	.001	-.144	.027	.129	.155	.134	.125	.120	.100	.073	.041	.038	.004	.002	.037	.068	.075	.105	.065	.066	-.055	.040	.151	.049	-.026	-.043	-.058	-.051
22	-10.75	2.82	.063	-.087	.029	.083	.067	.043	.043	.057	.049	.028	.023	.020	-.014	-.011	-.017	.02.	.045	.136	.067	.098	.033	-.060	.044	.126	.089	.027	-.004	.001
23	-12.04	2.93	.062	-.057	-.043	-.016	.012	-.020	-.009	.002	.003	-.001	-.005	-.000	-.019	-.026	-.031	-.022	-.003	.114	-.014	.029	.046	-.046	-.145	-.007	.086	.064	.021	.023
24	-13.20	2.94	.081	-.022	-.003	.006	.023	-.011	-.014	.007	.013	.001	-.009	.013	.008	-.003	.005	.004	.015	.053	.037	.037	.049	.023	-.083	-.147	-.015	.111	.068	.028
25	-14.16	3.35	.071	.009	.024	.035	.037	.014	.032	.027	.023	.023	.009	.032	.021	.029	.038	.041	.037	.088	.081	.082	.083	.069	.017	-.050	-.073	.023	.122	.103
26	-14.96	3.34	.063	-.029	-.012	-.002	.009	-.012	-.011	-.003	-.003	-.011	-.009	.013	-.001	.002	.003	.011	.023	.074	.076	.060	.026	.045	.009	-.065	-.085	-.108	.009	.059
27	-15.74	3.59	.087	-.032	-.035	-.026	.002	-.014	-.003	-.007	-.009	-.018	-.017	-.010	-.017	-.014	-.068	.002	.008	.070	.060	.053	.046	.037	.005	-.037	-.052	-.081	-.091	-.023

TABLE V.9 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

SEPTEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.62	0.38	1.40	2.20	2.24	1.85	2.02	2.34	2.96	3.67	4.43	5.27	6.15	6.47	5.00	4.99	3.32	1.75	0.58	0.09	-0.02	-0.17	-0.20	-0.19	-0.04	0.01	-0.12	-0.11
			SD	1.58	2.33	3.81	5.18	6.38	7.10	8.29	9.20	10.21	11.24	11.91	12.44	12.39	11.26	9.68	8.11	6.22	4.66	3.46	2.73	2.33	2.16	1.00	2.02	2.03	1.99	2.00	2.17
SFC	1.28	2.58		.593	.140	-.008	-.022	-.018	-.008	.014	-.007	-.018	-.029	-.045	-.054	-.059	-.046	-.061	-.067	-.094	-.056	.019	.043	.034	.007	-.024	-.043	-.052	-.043	-.026	-.039
1	-0.8	2.72		.102	-.263	.043	.085	.033	.015	.014	.008	.013	.025	.036	.059	.070	.070	.069	.044	.008	-.026	-.003	.013	.014	.009	.009	-.012	.003	-.015	-.033	-.004
2	0.86	4.23		-.002	-.155	-.085	-.059	-.107	-.111	-.101	-.096	-.094	-.065	-.055	-.038	-.036	-.026	-.038	-.066	-.110	-.168	-.149	-.162	-.137	-.119	-.092	-.087	-.064	-.057	-.071	-.061
3	1.32	5.51		-.031	-.061	.066	.052	-.026	-.031	-.020	-.031	-.020	.010	.023	.033	.027	.028	.010	-.016	-.073	-.165	-.165	-.192	-.175	-.136	-.104	-.113	-.063	-.069	-.087	-.075
4	2.66	6.37		.012	.012	.128	.108	.025	.023	.037	.032	.059	.084	.090	.097	.081	.068	.044	.014	-.049	-.148	-.142	-.163	-.158	-.141	-.116	-.113	-.061	-.065	-.078	-.078
5	3.95	6.38		.018	.024	.137	.121	.055	.070	.079	.083	.116	.137	.139	.151	.135	.120	.089	.055	-.011	-.112	-.124	-.127	-.117	-.105	-.083	-.089	-.047	-.050	-.073	-.078
6	5.33	7.15		.024	.028	.131	.116	.047	.068	.087	.090	.117	.140	.139	.148	.126	.111	.086	.053	-.008	-.098	-.106	-.112	-.102	-.084	-.084	-.092	-.056	-.065	-.092	-.112
7	6.78	8.29		-.004	.019	.127	.119	.056	.063	.100	.114	.132	.157	.148	.150	.121	.099	.071	.039	-.016	-.102	-.109	-.115	-.109	-.098	-.091	-.091	-.053	-.061	-.091	-.114
8	8.41	9.51		.005	.016	.135	.140	.073	.065	.101	.130	.157	.182	.173	.171	.142	.119	.084	.052	.001	-.079	-.102	-.101	-.096	-.085	-.076	-.074	-.033	-.047	-.079	-.097
9	10.41	10.47		.008	.003	.128	.155	.089	.079	.106	.129	.165	.198	.192	.190	.161	.137	.102	.066	.021	-.070	-.088	-.105	-.104	-.081	-.066	-.064	-.021	-.024	-.055	-.076
10	12.70	11.77		.012	.007	.133	.173	.107	.102	.124	.140	.168	.204	.210	.210	.181	.156	.122	.094	.047	-.042	-.067	-.089	-.094	-.081	-.065	-.071	-.032	-.026	-.054	-.074
11	15.22	12.79		.016	.005	.153	.203	.135	.134	.154	.163	.187	.227	.233	.243	.221	.192	.152	.123	.079	-.004	-.031	-.048	-.055	-.045	-.037	-.053	-.030	-.031	-.053	-.069
12	17.75	12.84		.017	-.004	.143	.200	.135	.140	.158	.163	.179	.215	.223	.234	.221	.201	.162	.138	.092	.017	-.009	-.030	-.044	-.046	-.030	-.057	-.043	-.040	-.059	-.065
13	17.56	11.93		.011	-.005	.129	.181	.116	.121	.142	.156	.164	.198	.203	.219	.206	.198	.177	.142	.094	.023	.000	-.015	-.050	-.052	-.048	-.083	-.067	-.058	-.078	-.082
14	16.09	9.89		-.009	.012	.119	.163	.100	.110	.127	.146	.152	.187	.192	.207	.200	.184	.188	.182	.121	.041	.012	-.021	-.061	-.056	-.036	-.060	-.038	-.030	-.048	-.054
15	12.90	8.39		-.013	.034	.118	.153	.087	.106	.127	.135	.143	.176	.177	.187	.177	.172	.151	.162	.127	.036	-.003	-.033	-.072	-.073	-.053	-.064	-.044	-.029	-.049	-.055
16	8.90	6.38		.027	.083	.102	.116	.053	.076	.106	.125	.136	.166	.161	.170	.163	.147	.128	.118	.099	.051	-.012	-.056	-.086	-.079	-.064	-.050	-.021	-.007	-.032	-.027
17	4.81	5.23		.083	.063	.056	.054	.016	.045	.070	.094	.085	.107	.103	.119	.117	.111	.102	.088	.024	.015	.030	-.038	-.071	-.076	-.060	-.042	-.004	.008	-.027	-.030
18	0.98	4.34		.073	-.035	.008	.007	-.020	.030	.053	.058	.046	.064	.060	.074	.083	.079	.063	.055	.002	-.066	-.008	.006	-.053	-.097	-.074	-.048	-.006	-.018	-.051	-.058
19	-1.54	3.75		.038	-.041	.027	.037	.015	.057	.077	.068	.062	.078	.076	.089	.085	.077	.068	.071	.047	-.011	-.068	-.023	.030	-.035	-.066	-.077	-.064	-.067	-.092	-.078
20	-3.02	3.43		-.035	-.089	.036	.053	.045	.067	.093	.084	.079	.090	.080	.088	.074	.064	.081	.087	.076	.071	.056	-.002	.075	.140	.057	-.008	-.043	-.022	-.073	-.070
21	-4.29	3.39		-.048	-.130	.037	.070	.081	.072	.084	.092	.080	.074	.073	.091	.082	.077	.096	.076	.083	.096	.080	.072	.006	.019	.065	.002	-.027	-.048	-.097	-.106
22	-5.10	3.42		.017	-.070	.027	.076	.087	.070	.064	.061	.043	.027	.037	.058	.081	.082	.097	.098	.101	.132	.142	.163	.129	-.000	.054	.119	.025	-.036	-.069	-.074
23	-5.92	3.75		.019	-.038	.051	.106	.109	.105	.102	.079	.067	.038	.039	.056	.071	.080	.093	.109	.136	.151	.136	.174	.159	.078	-.000	.072	.112	.059	.003	-.031
24	-6.50	4.11		.028	-.015	.116	.159	.132	.107	.091	.082	.080	.052	.052	.053	.062	.079	.098	.100	.122	.130	.096	.131	.167	.158	.110	.067	.116	.170	.101	.054
25	-6.77	4.39		.056	.006	.126	.167	.153	.137	.132	.129	.129	.106	.088	.093	.090	.094	.121	.128	.134	.150	.113	.135	.147	.144	.154	.088	.040	.127	.155	.120
26	-6.98	4.52		.047	-.007	.094	.131	.117	.107	.100	.093	.093	.065	.051	.058	.043	.037	.067	.061	.063	.069	.051	.022	.064	.111	.139	.115	.070	.071	.110	.160
27	-7.03	5.13		.020	-.026	.054	.100	.068	.053	.041	.050	.069	.059	.069	.083	.085	.102	.105	.107	.095	.080	.029	.002	.087	.108	.092	.084	.054	.075	.059	.074

TABLE V.10 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

OCTOBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.15	-0.31	-0.14	-0.42	-0.63	-0.85	-1.14	-1.23	-1.29	-1.05	-0.90	-0.52	0.09	0.80	1.24	1.20	1.05	0.72	0.27	-0.31	-0.60	-0.69	-0.61	-0.42	-0.37	-0.16	-0.00	0.03
			SD	1.96	3.20	4.37	5.88	7.16	8.48	9.92	11.43	12.74	13.90	14.83	14.72	13.93	12.20	10.37	8.47	6.93	5.50	4.32	3.54	3.01	2.94	2.86	2.72	2.72	2.70	2.76	3.01
SFC	0.91	2.55		.587	.263	.065	.036	.014	.005	.007	.004	.025	.012	.022	.021	.024	.038	.041	.027	.024	.010	.011	.019	.013	-.002	-.002	.017	.012	-.027	-.031	-.047
1	-0.49	2.76		.125	-.053	.090	.090	.051	.048	.053	.045	.061	.068	.076	.093	.103	.095	.088	.075	.066	.061	.060	.032	.055	-.016	-.004	-.013	-.006	-.043	-.042	-.058
2	-0.06	4.37		.009	-.031	.029	.048	.031	.035	.039	.037	.062	.078	.098	.111	.134	.144	.122	.088	.077	.080	.056	-.012	-.012	-.082	-.048	-.023	-.013	-.036	-.057	-.074
3	0.54	6.36		.036	-.003	.074	.065	.038	.030	.034	.029	.053	.079	.102	.129	.156	.162	.149	.119	.106	.094	.050	-.031	-.036	-.082	-.054	-.034	-.012	-.033	-.053	-.068
4	2.11	7.73		.082	.032	.079	.079	.042	.021	.034	.028	.054	.085	.119	.151	.174	.177	.156	.131	.130	.118	.069	-.010	-.005	-.056	-.058	-.039	-.021	-.040	-.057	-.072
5	3.61	8.81		.092	.049	.079	.081	.042	.024	.035	.024	.056	.079	.124	.158	.184	.182	.159	.135	.137	.127	.086	.010	.004	-.068	-.067	-.044	-.038	-.057	-.062	-.067
6	4.81	9.94		.107	.076	.083	.090	.040	.028	.036	.025	.051	.074	.115	.149	.171	.176	.150	.133	.147	.145	.107	.033	.022	-.056	-.055	-.028	-.025	-.048	-.041	-.040
7	5.00	11.26		.091	.071	.086	.088	.050	.043	.073	.067	.098	.118	.152	.181	.198	.194	.166	.152	.159	.148	.113	.041	.034	-.049	-.046	-.012	-.008	-.031	-.031	-.029
8	7.27	12.41		.074	.050	.085	.082	.049	.044	.068	.075	.117	.142	.171	.196	.212	.204	.171	.159	.157	.140	.108	.032	.027	-.049	-.052	-.017	-.008	-.030	-.031	-.028
9	8.80	13.40		.069	.041	.084	.089	.061	.068	.091	.098	.146	.179	.213	.233	.246	.228	.191	.174	.171	.151	.130	.051	.047	-.036	-.042	-.003	.006	-.012	-.015	-.020
10	10.21	13.72		.073	.029	.063	.069	.052	.057	.081	.095	.143	.181	.228	.253	.264	.247	.207	.188	.185	.162	.135	.059	.056	-.026	-.039	.005	.022	.003	.001	-.007
11	12.16	14.33		.062	.028	.070	.067	.048	.052	.080	.096	.140	.188	.237	.266	.287	.271	.223	.211	.200	.176	.146	.076	.064	-.016	-.030	.009	.030	.015	.012	.001
12	13.44	13.98		.052	.033	.077	.063	.036	.034	.060	.074	.120	.168	.224	.258	.287	.287	.229	.225	.210	.191	.161	.088	.075	-.004	-.017	.026	.051	.035	.036	.025
13	13.83	12.77		.051	.020	.070	.061	.033	.029	.050	.065	.108	.155	.209	.248	.275	.294	.263	.251	.236	.212	.182	.110	.098	.016	-.007	.022	.052	.036	.031	.021
14	13.43	11.07		.067	.050	.098	.087	.060	.053	.072	.084	.129	.171	.222	.259	.294	.300	.286	.295	.275	.251	.216	.146	.128	.036	.005	.025	.049	.037	.028	.014
15	11.96	9.37		.055	.047	.108	.104	.082	.069	.086	.098	.134	.179	.234	.274	.317	.330	.300	.317	.322	.278	.238	.163	.137	.044	.006	.025	.035	.023	.013	-.001
16	10.18	8.33		.052	.040	.124	.127	.102	.100	.105	.115	.147	.187	.237	.279	.319	.341	.321	.329	.344	.328	.270	.186	.163	.060	.010	.010	.017	-.001	-.016	-.033
17	7.40	6.69		.059	.040	.145	.174	.152	.150	.156	.164	.180	.217	.261	.299	.339	.354	.334	.349	.340	.345	.344	.244	.204	.097	.037	.026	.016	-.010	-.040	-.054
18	4.78	5.59		.083	.059	.163	.192	.187	.193	.193	.211	.219	.250	.286	.311	.347	.352	.343	.359	.363	.340	.366	.348	.287	.162	.102	.066	.033	.000	-.037	-.053
19	2.59	4.89		.040	.035	.146	.156	.159	.175	.170	.179	.191	.207	.225	.251	.268	.277	.274	.294	.300	.301	.272	.324	.371	.211	.120	.066	.015	-.025	-.047	-.070
20	1.20	4.47		.021	.000	.150	.151	.156	.164	.156	.162	.155	.162	.178	.176	.191	.199	.209	.217	.218	.244	.272	.244	.260	.289	.294	.094	.009	-.058	-.097	-.114
21	0.48	3.96		-.000	-.023	.127	.115	.096	.130	.125	.143	.132	.131	.148	.148	.149	.139	.140	.137	.138	.144	.190	.191	.146	.237	.291	.162	.045	-.044	-.082	-.095
22	0.28	3.98		-.005	-.014	.144	.133	.126	.150	.142	.149	.138	.139	.145	.137	.147	.139	.120	.115	.112	.116	.152	.163	.178	.146	.208	.196	.088	-.002	-.049	-.074
23	0.48	4.18		-.003	-.019	.112	.086	.086	.098	.100	.109	.093	.115	.138	.134	.140	.124	.106	.106	.085	.091	.115	.107	.147	.144	.106	.131	.149	.089	.025	-.022
24	0.96	4.55		.027	.001	.099	.084	.059	.072	.070	.090	.072	.083	.106	.118	.107	.084	.056	.062	.047	.061	.082	.085	.138	.139	.121	.095	.119	.158	.124	.072
25	1.60	5.17		.032	-.009	.041	.033	.014	-.002	.001	.020	.023	.030	.046	.041	.036	.021	.010	.023	.013	.025	.055	.072	.083	.104	.141	.140	.102	.160	.219	.191
26	2.69	5.87		.068	-.032	-.007	-.005	.003	-.021	-.018	-.005	.012	.021	.045	.033	.035	.016	.021	.003	.020	.052	.089	.101	.104	.126	.176	.186	.161	.161	.204	.239
27	3.99	6.50		.053	-.012	.007	.007	.002	-.008	.008	.018	.025	.034	.060	.055	.059	.032	.041	.023	.025	.049	.100	.116	.127	.126	.172	.189	.194	.195	.192	.224

TABLE V. II CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

NOVEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-0.84	-0.90	-1.45	-2.57	-3.05	-3.53	-3.82	-3.82	-4.04	-4.23	-4.25	-3.93	-3.05	-2.33	-1.73	-1.47	-1.40	-1.38	-1.32	-1.07	-1.09	-0.95	-0.95	-0.83	-0.83	-0.82	-0.90	-0.88
			SD	2.57	3.81	5.39	7.33	8.90	10.51	12.09	13.75	15.44	16.67	17.51	17.41	16.47	14.90	12.99	10.96	9.06	7.32	6.01	4.79	4.03	3.50	3.28	3.34	3.59	3.79	3.95	4.31
SFC	0.10	2.51		.474	.214	.070	.066	.009	-.013	-.018	-.020	-.005	-.005	.004	.015	.028	.012	-.007	-.011	-.009	-.012	-.027	-.054	-.047	-.032	-.010	-.004	.031	.037	.046	.033
1	-0.17	3.35		-.139	-.107	.119	.096	.049	.039	.032	.025	.042	.086	.118	.135	.124	.086	.079	.071	.074	.081	.094	.071	.065	.056	.062	.055	.057	.050	.052	.062
2	0.17	4.96		-.138	-.190	-.055	-.007	.013	.017	.028	.040	.052	.106	.145	.174	.174	.119	.088	.070	.077	.079	.084	.063	.067	.064	.075	.068	.062	.039	.032	.042
3	2.03	6.78		-.101	-.136	.054	.061	.043	.043	.058	.071	.096	.153	.203	.233	.235	.167	.145	.119	.114	.121	.125	.111	.110	.113	.127	.120	.106	.079	.065	.068
4	4.02	8.95		-.070	-.114	.083	.100	.090	.076	.086	.102	.126	.182	.221	.246	.242	.179	.155	.127	.123	.128	.129	.121	.120	.126	.145	.142	.130	.099	.090	.093
5	6.06	9.23		-.058	-.066	.117	.134	.122	.115	.103	.120	.153	.205	.242	.266	.266	.201	.179	.148	.137	.148	.147	.145	.139	.141	.164	.160	.134	.104	.092	.094
6	8.15	10.35		-.067	-.080	.125	.152	.136	.134	.120	.128	.164	.216	.253	.274	.275	.216	.192	.167	.154	.167	.161	.155	.158	.154	.167	.166	.135	.102	.091	.092
7	10.24	11.45		-.053	-.040	.125	.156	.142	.146	.140	.152	.189	.238	.269	.285	.286	.218	.192	.166	.153	.167	.159	.158	.171	.163	.168	.164	.136	.103	.086	.086
8	12.36	12.58		-.039	-.041	.126	.162	.150	.156	.154	.176	.221	.269	.301	.313	.311	.241	.209	.180	.165	.176	.173	.169	.185	.176	.174	.157	.119	.087	.068	.067
9	13.44	13.41		-.030	-.029	.130	.161	.158	.159	.160	.181	.229	.285	.316	.323	.323	.249	.210	.182	.170	.183	.183	.181	.194	.180	.184	.163	.122	.086	.063	.059
10	15.82	14.21		-.023	-.035	.118	.157	.151	.157	.167	.189	.243	.308	.342	.360	.354	.270	.224	.191	.175	.189	.196	.196	.202	.190	.187	.168	.125	.087	.066	.063
11	17.48	14.57		-.020	-.032	.113	.155	.148	.159	.167	.186	.240	.306	.348	.380	.385	.299	.248	.209	.189	.207	.213	.215	.222	.214	.212	.190	.139	.100	.075	.067
12	18.47	14.25		-.013	-.016	.120	.152	.146	.150	.160	.176	.226	.288	.333	.366	.377	.313	.267	.225	.203	.227	.234	.235	.244	.228	.223	.199	.150	.113	.084	.069
13	18.50	12.78		-.010	-.010	.129	.165	.172	.181	.187	.204	.236	.294	.338	.374	.376	.328	.298	.255	.232	.249	.258	.256	.262	.252	.240	.216	.156	.118	.085	.068
14	17.41	11.71		-.014	.004	.147	.176	.180	.194	.199	.211	.236	.285	.328	.367	.371	.329	.323	.299	.265	.278	.284	.280	.282	.265	.248	.222	.159	.119	.083	.061
15	15.78	10.15		-.006	.009	.164	.192	.195	.202	.210	.214	.232	.276	.320	.350	.352	.318	.305	.290	.283	.293	.295	.290	.286	.272	.259	.230	.170	.126	.087	.072
16	13.95	8.73		-.004	.016	.186	.214	.226	.235	.239	.239	.249	.281	.319	.348	.341	.313	.319	.297	.300	.330	.332	.325	.314	.299	.283	.262	.192	.141	.100	.083
17	11.15	7.67		.010	.022	.189	.225	.235	.254	.263	.262	.268	.288	.319	.339	.323	.302	.309	.302	.288	.328	.344	.328	.307	.294	.269	.246	.167	.115	.068	.046
18	8.45	7.10		.007	.031	.207	.239	.253	.269	.275	.269	.272	.287	.310	.329	.309	.287	.288	.290	.293	.311	.342	.358	.334	.309	.283	.256	.176	.121	.067	.038
19	6.12	6.54		-.011	.045	.210	.231	.246	.271	.287	.275	.280	.289	.307	.313	.283	.262	.263	.261	.282	.305	.314	.348	.370	.338	.308	.281	.191	.130	.059	.029
20	4.30	5.92		-.026	.034	.189	.213	.226	.256	.280	.274	.269	.278	.285	.282	.246	.217	.207	.216	.226	.251	.259	.269	.325	.350	.322	.272	.186	.126	.065	.043
21	3.50	5.70		-.057	.033	.155	.200	.228	.262	.286	.289	.276	.278	.279	.266	.230	.207	.205	.192	.206	.209	.219	.247	.242	.285	.327	.277	.184	.109	.061	.035
22	3.42	5.80		-.064	.057	.146	.194	.251	.293	.317	.327	.318	.308	.308	.287	.251	.239	.235	.226	.225	.204	.212	.237	.232	.231	.255	.310	.229	.144	.080	.026
23	3.87	6.37		-.032	.060	.133	.192	.222	.250	.271	.281	.268	.268	.265	.243	.213	.205	.208	.208	.199	.177	.178	.199	.209	.231	.203	.263	.261	.204	.134	.068
24	4.44	6.95		-.038	.011	.091	.157	.191	.225	.236	.249	.228	.235	.227	.210	.194	.182	.190	.190	.190	.177	.155	.197	.223	.267	.251	.259	.285	.279	.227	.170
25	5.26	7.58		-.047	.017	.081	.139	.172	.196	.205	.222	.215	.220	.208	.200	.187	.170	.172	.170	.178	.151	.136	.188	.232	.258	.272	.267	.267	.284	.269	.223
26	6.80	8.46		-.024	.015	.083	.149	.176	.208	.221	.237	.231	.235	.220	.214	.211	.197	.202	.205	.212	.192	.184	.225	.268	.286	.314	.321	.320	.310	.316	.297
27	8.17	9.41		-.034	.012	.086	.159	.182	.203	.218	.232	.222	.228	.223	.208	.208	.205	.208	.214	.235	.207	.189	.219	.255	.266	.303	.334	.352	.339	.340	.332

TABLE V. 12 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

DECEMBER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY.
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	-1.01	-1.02	-1.81	-3.34	-4.62	-4.30	-4.59	-4.92	-5.54	-6.01	-6.30	-6.13	-4.91	-4.14	-3.64	-3.15	-2.30	-2.74	-2.81	-2.87	-2.84	-2.76	-2.93	-2.91	-2.84	-2.77	-2.80	-3.01
			SD	2.38	3.79	5.34	7.31	8.55	9.68	11.34	12.88	14.62	15.74	16.65	16.79	15.54	13.33	11.39	9.69	8.20	6.74	5.61	4.61	4.02	3.69	3.60	3.68	3.98	4.32	4.67	4.97
SFC	-0.17	2.33	.461	.273	.139	.136	.106	.105	.092	.104	.095	.097	.085	.078	.062	.055	.051	.0 2	.026	.036	.059	.054	.031	.037	.021	.018	.014	.028	.029	.026
1	-0.11	3.56	-.160	-.173	.034	.048	.031	.017	.029	.061	.089	.115	.121	.116	.091	.035	-.024	-.019	-.033	-.053	-.017	-.010	-.031	-.026	-.028	-.037	-.059	-.043	-.049	-.064
2	0.16	5.36	-.118	-.236	-.102	-.088	-.055	-.049	-.027	.015	.049	.083	.098	.103	.088	.039	-.035	-.032	-.038	-.046	-.026	-.035	-.055	-.058	-.074	-.084	-.102	-.114	-.119	-.130
3	2.30	7.28	-.099	-.213	-.052	-.089	-.069	-.059	-.026	.013	.042	.078	.101	.104	.096	.052	-.012	-.014	-.027	-.046	-.031	-.047	-.075	-.084	-.121	-.144	-.159	-.166	-.166	-.176
4	4.21	8.53	-.065	-.136	.023	-.006	-.017	-.015	.010	.045	.074	.108	.126	.124	.109	.075	.013	.012	-.002	-.021	-.015	-.031	-.061	-.074	-.099	-.124	-.138	-.136	-.129	-.135
5	5.96	9.54	-.053	-.107	.060	.039	.025	.014	.031	.066	.096	.129	.145	.143	.127	.096	.032	.032	.030	.015	.012	-.004	-.035	-.055	-.072	-.098	-.119	-.124	-.114	-.117
6	7.41	11.01	-.059	-.070	.085	.068	.060	.062	.076	.103	.128	.156	.172	.168	.148	.113	.058	.05	.059	.044	.040	.021	-.015	-.043	-.050	-.068	-.095	-.097	-.078	-.076
7	8.84	12.39	-.054	-.056	.097	.080	.084	.085	.108	.135	.159	.188	.207	.202	.186	.147	.087	.079	.081	.070	.052	.026	-.009	-.044	-.051	-.069	-.099	-.104	-.080	-.077
8	10.17	13.92	-.042	-.068	.084	.078	.083	.089	.115	.154	.183	.213	.236	.234	.216	.179	.119	.1 6	.105	.092	.072	.041	.00	-.031	-.040	-.061	-.092	-.098	-.075	-.073
9	11.64	15.15	-.046	-.077	.081	.084	.095	.100	.128	.169	.203	.238	.262	.257	.240	.204	.146	.133	.131	.114	.092	.060	.015	-.017	-.036	-.067	-.099	-.111	-.092	-.088
10	13.79	16.41	-.038	-.087	.085	.093	.110	.119	.147	.185	.220	.258	.284	.287	.267	.235	.177	.172	.170	.143	.121	.084	.036	.004	-.025	-.068	-.099	-.115	-.104	-.104
11	16.46	16.73	-.027	-.109	.072	.082	.099	.111	.141	.179	.214	.260	.291	.299	.289	.255	.196	.174	.184	.152	.137	.102	.053	.014	-.027	-.073	-.107	-.124	-.121	-.118
12	18.32	15.58	-.014	-.095	.082	.094	.109	.122	.148	.187	.220	.267	.297	.302	.298	.285	.233	.234	.223	.184	.177	.141	.097	.053	-.005	-.055	-.101	-.126	-.127	-.126
13	19.19	13.34	-.009	-.069	.091	.095	.101	.113	.135	.171	.200	.245	.273	.286	.277	.277	.244	.249	.243	.206	.203	.173	.136	.098	.029	-.026	-.084	-.116	-.119	-.122
14	18.47	11.15	.003	-.045	.104	.122	.128	.139	.153	.186	.208	.240	.261	.270	.267	.264	.250	.286	.287	.247	.249	.220	.161	.117	.052	-.014	-.069	-.106	-.107	-.109
15	16.74	9.52	.002	-.016	.124	.135	.138	.137	.150	.184	.202	.233	.253	.265	.269	.272	.246	.287	.308	.267	.268	.240	.191	.137	.066	-.002	-.05	-.096	-.100	-.107
16	14.59	8.14	.008	-.011	.126	.145	.158	.154	.161	.194	.212	.241	.257	.272	.279	.291	.278	.288	.313	.304	.287	.240	.201	.146	.074	.003	-.05	-.096	-.096	-.108
17	11.78	7.20	.038	.003	.116	.146	.161	.159	.168	.195	.212	.239	.248	.265	.274	.289	.281	.3.2	.287	.263	.287	.247	.196	.148	.073	.001	-.062	.099	-.097	-.113
18	8.97	6.47	.029	.002	.114	.136	.148	.141	.156	.179	.196	.217	.221	.242	.246	.258	.255	.284	.281	.220	.271	.284	.247	.190	.116	.051	-.020	165	-.062	-.082
19	6.26	6.38	.028	.014	.126	.144	.142	.131	.140	.159	.173	.195	.197	.201	.205	.218	.222	.243	.243	.195	.213	.234	.263	.212	.130	.069	.011	-. 3	-.037	-.066
20	4.12	5.76	-.008	.001	.097	.115	.105	.080	.088	.115	.129	.139	.134	.138	.136	.140	.146	.156	.175	.174	.193	.171	.194	.218	.141	.084	.043	.0	-.004	-.023
21	2.74	6.01	-.024	.011	.114	.132	.140	.122	.127	.138	.146	.145	.136	.139	.136	.132	.135	.143	.144	.141	.175	.164	.140	.179	.185	.133	.086	.062	.062	.046
22	1.00	6.34	-.007	.018	.104	.114	.116	.106	.108	.117	.115	.117	.100	.101	.117	.121	.132	.135	.139	.127	.159	.176	.178	.170	.172	.183	.152	.119	107	.087
23	1.99	6.98	.024	.026	.131	.151	.153	.135	.144	.153	.150	.151	.137	.139	.155	.145	.159	.145	.163	.159	.183	.212	.243	.248	.208	.219	.226	.220	.205	.189
24	2.48	7.89	-.015	-.004	.109	.130	.131	.113	.122	.118	.126	.123	.121	.122	.126	.111	.127	.1 5	.112	.105	.134	.175	.218	.264	.245	.238	.283	.315	.298	.269
25	3.53	8.30	.011	.001	.095	.119	.109	.098	.118	.121	.140	.132	.128	.133	.124	.087	.085	.059	.065	.066	.111	.158	.199	.272	.293	.290	.292	.320	.339	.317
26	5.12	10.23	.021	.010	.096	.125	.121	.120	.133	.138	.153	.143	.139	.137	.130	.103	.100	.095	.091	.098	.140	.183	.241	.305	.339	.349	.369	.375	.380	.378
27	7.05	11.43	.034	.021	.079	.108	.124	.133	.143	.139	.149	.139	.130	.122	.117	.106	.111	.117	.119	.130	.178	.207	.270	.326	.359	.377	.408	.414	.414	.410

TABLE V. 13 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

WINTER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3252

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL)km / MERIDIONAL MEAN	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL SD	-0.79	-0.74	-1.63	-2.96	-3.40	-3.71	-3.95	-4.19	-4.58	-4.86	-5.13	-5.07	-4.32	-3.60	-3.00	-2.64	-2.49	-2.31	-2.40	-2.43	-2.42	-2.40	-2.45	-2.40	-2.31	-2.22	-2.34	-2.26
				2.42	4.07	5.68	7.73	9.28	10.66	12.02	13.61	15.38	16.69	17.61	17.68	16.24	14.18	12.21	10.28	8.70	7.17	5.93	4.91	4.19	3.97	3.84	3.83	3.99	4.40	4.86	5.44
SFC	0.6	2.49	.436	.286	.189	.158	.147	.141	.129	.118	.109	.113	.110	.111	.108	.107	.109	.104	.090	.084	.066	.037	.019	.017	-.006	-.009	-.013	-.014	-.013	-.013
1	-0.6	3.76	-.189	-.091	.149	.158	.153	.143	.138	.138	.142	.155	.148	.127	.108	.074	.046	.035	.018	.009	.011	.018	.010	.016	.014	.013	.000	-.010	-.015	-.024
2	1.48	5.54	-.153	-.142	.047	.058	.083	.092	.099	.108	.124	.141	.143	.132	.118	.082	.055	.036	.023	.009	.013	.028	.014	.011	.014	.013	.000	-.018	-.023	-.031
3	4.31	7.36	-.122	-.113	.073	.065	.077	.089	.101	.112	.129	.152	.162	.154	.142	.108	.079	.062	.049	.035	.028	.033	.019	.014	.006	-.000	-.013	-.031	-.035	-.042
4	6.04	8.81	-.086	-.063	.130	.116	.128	.126	.132	.143	.158	.181	.191	.178	.162	.132	.105	.090	.080	.062	.050	.046	.029	.024	.016	.007	-.006	-.019	-.018	-.021
5	8.24	10.19	-.081	-.052	.144	.129	.144	.144	.143	.157	.170	.195	.204	.187	.167	.140	.111	.095	.086	.074	.064	.062	.052	.042	.037	.027	.010	-.004	-.002	-.003
6	10.77	11.50	-.072	-.028	.153	.143	.159	.164	.167	.179	.189	.212	.220	.199	.175	.146	.117	.102	.096	.081	.074	.070	.054	.040	.035	.026	.008	-.005	-.000	.000
7	12.55	13.09	-.069	-.019	.153	.143	.163	.168	.183	.199	.209	.230	.239	.218	.192	.161	.129	.109	.103	.092	.077	.071	.055	.040	.035	.025	.006	-.006	-.001	.002
8	14.62	14.58	-.057	-.027	.143	.142	.161	.172	.188	.217	.232	.252	.260	.238	.208	.176	.145	.121	.111	.097	.082	.073	.058	.044	.038	.024	.005	-.006	-.000	.002
9	16.79	15.89	-.054	-.036	.134	.145	.167	.177	.196	.227	.248	.272	.281	.261	.231	.199	.167	.146	.136	.119	.103	.091	.075	.058	.046	.028	.009	-.004	-.002	.001
10	19.04	17.33	-.046	-.054	.111	.132	.158	.170	.189	.221	.245	.274	.287	.272	.242	.209	.174	.156	.145	.123	.108	.095	.076	.057	.043	.025	.009	-.005	-.005	-.003
11	22.09	17.27	-.035	-.064	.094	.126	.152	.164	.183	.216	.241	.273	.285	.277	.256	.223	.184	.171	.159	.135	.126	.114	.093	.075	.056	.034	.018	.003	-.000	.003
12	24.2	15.9	-.027	-.063	.092	.126	.149	.163	.180	.211	.233	.263	.272	.259	.246	.232	.196	.187	.181	.158	.153	.147	.131	.113	.088	.064	.043	.025	.021	.022
13	24.11	13.71	-.021	-.053	.092	.130	.151	.161	.171	.198	.216	.244	.252	.244	.225	.222	.210	.215	.204	.182	.184	.183	.171	.154	.125	.098	.071	.045	.038	.036
14	22.74	11.77	-.024	-.053	.101	.143	.161	.171	.177	.203	.216	.239	.245	.242	.227	.213	.205	.223	.225	.205	.208	.202	.181	.156	.132	.102	.072	.043	.035	.033
15	20.6	9.34	-.022	-.035	.119	.155	.170	.174	.178	.200	.211	.238	.243	.241	.233	.226	.202	.225	.254	.234	.235	.231	.210	.181	.151	.122	.094	.064	.055	.050
16	17.43	8.48	-.021	-.032	.127	.160	.177	.177	.177	.199	.208	.234	.241	.240	.231	.227	.211	.205	.234	.245	.239	.231	.214	.184	.153	.120	.090	.060	.052	.047
17	14.22	7.51	-.017	-.012	.132	.168	.188	.183	.187	.204	.213	.235	.238	.239	.231	.226	.218	.224	.223	.226	.250	.240	.220	.189	.157	.119	.087	.058	.049	.041
18	10.71	6.89	-.016	-.009	.135	.164	.176	.171	.174	.187	.195	.207	.206	.202	.198	.197	.196	.210	.224	.200	.234	.277	.264	.220	.184	.147	.109	.073	.061	.051
19	7.9	6.60	-.012	-.012	.138	.167	.171	.170	.177	.188	.191	.205	.197	.184	.178	.179	.178	.193	.210	.194	.199	.240	.277	.219	.175	.135	.098	.062	.048	.032
20	4.79	6.57	-.024	-.028	.108	.135	.140	.136	.143	.156	.159	.169	.162	.154	.149	.151	.154	.169	.191	.201	.210	.197	.226	.225	.191	.147	.116	.080	.065	.049
21	2.47	7.13	-.033	-.039	.072	.108	.125	.124	.130	.141	.140	.147	.143	.142	.143	.154	.154	.173	.187	.196	.206	.190	.179	.207	.214	.174	.136	.108	.094	.075
22	1.78	7.77	-.019	-.022	.077	.106	.123	.119	.122	.128	.125	.127	.121	.121	.135	.151	.161	.173	.194	.205	.223	.225	.225	.209	.205	.210	.184	.148	.122	.099
23	1.79	8.55	.005	-.002	.102	.124	.128	.124	.133	.134	.132	.132	.128	.130	.149	.163	.176	.178	.209	.223	.242	.251	.270	.256	.228	.234	.231	.210	.185	.163
24	1.38	9.51	.009	-.015	.087	.099	.101	.092	.102	.100	.104	.102	.102	.106	.122	.133	.154	.162	.187	.196	.232	.257	.289	.289	.277	.267	.280	.288	.272	.244
25	1.1	10.73	.026	-.019	.078	.087	.083	.076	.086	.087	.095	.091	.090	.098	.111	.124	.141	.155	.178	.192	.248	.284	.319	.340	.349	.349	.340	.347	.354	.353
26	2.5	12.34	.024	-.030	.075	.087	.086	.084	.095	.097	.101	.095	.096	.102	.117	.138	.155	.173	.196	.214	.269	.295	.333	.353	.372	.383	.386	.387	.387	.377
27	3.41	13.35	.025	-.031	.059	.065	.068	.076	.086	.084	.085	.083	.079	.081	.098	.128	.150	.169	.196	.223	.282	.305	.344	.361	.384	.406	.420	.424	.418	.407

TABLE V. 14 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

SPRING

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3312

ALTITUDE (MSL) km	ZONAL MEAN	ZONAL SD	ALTITUDE (MSL) km / MERIDIONAL MEAN / MERIDIONAL SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.49	-0.73	-1.09	-1.44	-1.66	-1.71	-1.72	-1.74	-1.77	-1.65	-1.36	-0.93	-0.14	0.79	1.20	1.32	1.21	1.03	0.72	0.27	0.01	-0.10	-0.18	-0.23	-0.22	-0.20	-0.25	-0.30
			SD	2.32	3.75	5.05	6.97	8.58	10.09	11.50	12.87	14.34	15.43	16.03	16.06	14.61	12.67	10.80	9.15	7.69	6.33	5.22	4.30	3.54	2.99	2.91	2.91	2.93	2.00	3.23	3.46
SFC	1.47	2.99	.489	.128	.054	.037	.012	.007	.009	.006	.008	.004	.009	-.003	-.014	-.021	-.034	-.039	-.046	-.060	-.058	-.048	-.040	-.036	-.051	-.041	-.031	-.032	-.036	-.034
1	0.78	3.19	.073	-.108	.126	.132	.103	.075	.063	.070	.086	.097	.099	.087	.073	.059	.017	-.013	-.023	-.032	-.021	.013	.045	.048	.032	.033	.034	.014	-.002	-.000
2	2.82	4.85	-.052	-.141	-.019	-.027	-.024	-.036	-.038	-.027	-.007	.009	.020	.009	.002	.011	-.026	-.059	-.093	-.131	-.091	-.069	-.037	-.036	-.047	-.028	-.021	-.032	-.042	-.039
3	5.12	6.84	-.051	-.102	.040	-.012	-.023	-.034	-.041	-.028	-.006	.014	.028	.020	.007	.008	-.038	-.076	-.114	-.135	-.125	-.111	-.075	-.067	-.071	-.052	-.050	-.056	-.071	-.071
4	7.84	8.91	-.020	-.068	.097	.057	.037	.013	.002	.011	.031	.049	.067	.055	.042	.039	-.004	-.044	-.081	-.098	-.092	-.079	-.052	-.052	-.064	-.044	-.040	-.048	-.054	-.053
5	10.65	9.93	-.008	-.049	.125	.098	.089	.060	.041	.050	.070	.086	.102	.088	.077	.078	.034	-.005	-.046	-.062	-.059	-.054	-.039	-.041	-.054	-.038	-.039	-.047	-.058	-.055
6	12.57	10.28	-.014	-.049	.130	.115	.106	.086	.066	.073	.090	.109	.127	.112	.100	.103	.055	.017	-.021	-.041	-.039	-.035	-.029	-.033	-.051	-.037	-.037	-.046	-.055	-.053
7	14.73	11.56	-.005	-.043	.134	.125	.120	.107	.095	.103	.116	.136	.153	.134	.121	.118	.071	.034	-.004	-.021	-.024	-.024	-.023	-.024	-.039	-.030	-.031	-.040	-.046	-.043
8	17.07	12.58	-.004	-.044	.136	.134	.132	.120	.111	.127	.144	.165	.182	.161	.144	.135	.088	.051	.013	-.002	-.005	-.012	-.016	-.018	-.033	-.027	-.029	-.039	-.043	-.040
9	19.31	13.33	-.002	-.049	.131	.143	.139	.125	.116	.132	.158	.186	.208	.188	.171	.157	.107	.064	.031	.016	.010	-.000	-.013	-.018	-.038	-.027	-.029	-.041	-.044	-.044
10	21.79	14.07	.014	-.044	.129	.144	.143	.131	.125	.143	.171	.201	.227	.219	.200	.182	.133	.091	.056	.037	.024	.013	-.004	-.012	-.042	-.033	-.038	-.047	-.050	-.051
11	24.25	14.36	.022	-.041	.125	.136	.134	.123	.117	.135	.162	.194	.225	.226	.219	.200	.142	.099	.064	.046	.027	.010	-.014	-.020	-.050	-.044	-.052	-.060	-.059	-.062
12	25.40	13.09	.036	-.031	.130	.144	.143	.133	.122	.135	.157	.187	.216	.217	.216	.210	.153	.109	.073	.059	.044	.025	-.003	-.013	-.048	-.049	-.061	-.073	-.072	-.075
13	25.28	11.21	.038	-.021	.145	.157	.158	.147	.133	.137	.156	.176	.199	.200	.198	.203	.167	.121	.085	.073	.062	.041	.016	.003	-.036	-.044	-.058	-.073	-.076	-.077
14	23.24	9.58	.052	-.004	.158	.165	.162	.148	.133	.133	.150	.168	.186	.185	.189	.183	.155	.137	.097	.083	.066	.050	.027	.013	-.031	-.040	-.054	-.068	-.067	-.071
15	20.44	8.26	.059	.010	.177	.175	.170	.156	.139	.137	.151	.169	.185	.184	.189	.187	.148	.131	.106	.082	.060	.042	.019	.012	-.032	-.044	-.061	-.076	-.077	-.080
16	17.27	7.45	.067	.021	.179	.176	.174	.161	.140	.137	.146	.160	.172	.166	.169	.167	.133	.104	.084	.081	.056	.036	.012	.002	-.029	-.043	-.059	-.074	-.078	-.079
17	13.72	6.81	.076	.037	.193	.189	.190	.176	.151	.151	.163	.175	.182	.173	.168	.157	.131	.106	.073	.069	.060	.038	.012	.003	-.029	-.040	-.052	-.060	-.062	-.064
18	9.04	6.29	.083	.062	.211	.206	.210	.202	.179	.181	.190	.198	.193	.186	.170	.155	.131	.112	.084	.059	.054	.067	.051	.042	.009	-.014	-.032	-.034	-.035	-.037
19	6.43	5.89	.069	.062	.188	.184	.188	.188	.173	.176	.185	.188	.179	.160	.148	.131	.111	.092	.076	.054	.039	.059	.111	.100	.048	.019	-.005	-.013	-.023	-.022
20	3.43	5.50	.056	.070	.168	.176	.189	.193	.189	.193	.199	.198	.188	.170	.147	.133	.113	.093	.093	.082	.072	.065	.110	.165	.113	.071	.043	.031	.009	.006
21	1.16	5.16	.023	.041	.141	.160	.158	.171	.170	.175	.179	.172	.160	.138	.112	.088	.061	.039	.042	.052	.029	.030	.031	.105	.137	.105	.062	.041	.021	.015
22	0.13	5.37	-.000	.013	.089	.112	.124	.133	.133	.137	.140	.133	.123	.097	.072	.048	.026	.006	.012	.017	.017	.015	.017	.029	.112	.153	.122	.092	.064	.056
23	-0.47	5.41	.023	.013	.076	.096	.103	.114	.115	.116	.116	.106	.089	.061	.034	.016	.005	-.011	.009	.017	.024	.044	.054	.072	.092	.153	.196	.173	.135	.121
24	-0.70	5.93	.031	.024	.096	.105	.106	.120	.117	.121	.116	.102	.078	.050	.030	.021	.020	.009	.036	.047	.052	.072	.092	.129	.152	.161	.221	.256	.220	.190
25	-0.11	6.58	.046	.021	.108	.125	.131	.143	.138	.138	.130	.116	.093	.055	.040	.034	.032	.027	.046	.057	.055	.071	.094	.135	.172	.171	.180	.215	.237	.217
26	0.16	7.38	.047	.043	.104	.115	.106	.118	.113	.113	.104	.089	.062	.023	.001	.002	.005	-.003	.016	.032	.031	.042	.069	.115	.148	.165	.176	.173	.196	.213
27	0.03	8.27	.035	.035	.079	.086	.083	.093	.095	.086	.076	.065	.039	.016	-.001	.006	.016	.012	.030	.038	.032	.041	.070	.120	.143	.171	.177	.157	.161	.162

TABLE V. 15 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES

CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

SUMMER

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3312

ALTITUDE (MSL) km	ZONAL MEAN	MERIDIONAL MEAN SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			SFC	1.17	0.91	0.92	2.26	3.05	3.21	3.43	3.75	4.36	5.18	6.23	7.24	8.01	8.26	7.48	6.01	4.40	2.84	1.69	0.98	0.60	0.35	0.22	0.20	0.08	0.05	0.06	0.08
			SD	1.50	2.47	3.36	4.31	4.86	5.38	5.99	6.70	7.69	8.70	9.71	10.65	10.84	10.14	8.61	6.69	5.09	3.95	2.96	2.38	2.06	1.96	1.93	1.95	2.06	2.09	2.19	2.39
SFC	1.01	2.46	.548	.133	-.111	-.062	-.032	-.053	-.068	-.069	-.074	-.073	-.066	-.061	-.061	-.059	-.069	-.115	-.137	-.060	-.007	.018	.026	-.009	-.047	-.063	-.038	-.030	-.028	-.031
1	0.36	2.71	.173	-.369	-.134	.017	.044	.024	.033	.063	.014	.017	.022	.020	.002	-.017	-.034	-.053	-.071	-.076	-.045	.005	.019	-.009	-.038	-.038	-.047	-.060	-.073	-.077
2	1.99	3.71	.074	-.194	-.271	-.165	-.134	-.119	-.105	-.094	-.074	-.046	-.030	-.030	-.047	-.057	-.081	-.117	-.149	-.176	-.177	-.131	-.119	-.125	-.137	-.147	-.160	-.139	-.138	-.129
3	2.38	5.14	-.013	-.073	-.094	-.031	-.063	-.083	-.083	-.078	-.054	-.024	-.006	.002	-.006	-.019	-.042	-.065	-.132	-.175	-.183	-.157	-.129	-.126	-.137	-.134	-.137	-.102	-.106	-.095
4	2.77	5.93	.010	.021	.045	.112	.064	.011	-.012	-.017	.005	.022	.029	.025	.012	-.004	-.018	-.073	-.128	-.168	-.183	-.157	-.118	-.108	-.116	-.126	-.130	-.102	-.101	-.090
5	3.16	6.33	.017	.076	.086	.166	.124	.085	.058	.047	.062	.078	.078	.065	.048	.024	.004	-.021	-.104	-.150	-.171	-.149	-.111	-.104	-.123	-.135	-.139	-.112	-.109	-.098
6	4.17	6.98	.032	.093	.093	.162	.138	.122	.112	.100	.116	.128	.127	.112	.090	.065	.029	-.022	-.081	-.133	-.148	-.125	-.101	-.093	-.123	-.129	-.144	-.112	-.111	-.108
7	5.13	7.59	.026	.072	.072	.156	.143	.133	.132	.132	.146	.155	.152	.137	.115	.084	.045	-.004	-.059	-.109	-.131	-.103	-.092	-.089	-.121	-.141	-.147	-.112	-.108	-.111
8	6.47	8.34	.018	.053	.058	.150	.141	.138	.140	.140	.163	.171	.166	.150	.125	.088	.052	.001	-.052	-.097	-.120	-.100	-.086	-.085	-.114	-.131	-.138	-.107	-.106	-.112
9	7.14	9.37	.011	.031	.042	.140	.134	.132	.133	.129	.156	.171	.166	.150	.122	.083	.048	-.001	-.055	-.097	-.117	-.097	-.086	-.081	-.115	-.129	-.138	-.113	-.110	-.111
10	9.34	9.83	.006	.004	.032	.127	.129	.120	.121	.118	.141	.163	.168	.157	.133	.090	.052	.001	-.059	-.102	-.119	-.108	-.098	-.097	-.128	-.137	-.149	-.128	-.125	-.121
11	10.81	10.57	.008	-.012	.024	.120	.126	.114	.111	.109	.131	.154	.164	.164	.147	.108	.067	.013	-.050	-.095	-.115	-.107	-.103	-.099	-.126	-.133	-.143	-.122	-.118	-.117
12	11.69	10.90	-.004	-.021	.026	.129	.134	.121	.120	.117	.137	.160	.172	.176	.168	.142	.099	.042	-.019	-.069	-.095	-.087	-.088	-.081	-.107	-.114	-.126	-.110	-.104	-.104
13	12.10	10.44	-.020	-.021	.039	.143	.160	.154	.158	.153	.168	.186	.200	.204	.190	.172	.151	.101	.039	-.029	-.064	-.056	-.054	-.049	-.075	-.086	-.098	-.081	-.074	-.076
14	10.64	9.18	-.029	-.013	.066	.165	.185	.184	.190	.186	.201	.219	.228	.227	.219	.197	.187	.168	.101	.029	-.016	-.008	-.009	-.007	-.034	-.045	-.057	-.042	-.038	-.038
15	8.47	7.50	-.009	.046	.093	.188	.203	.206	.200	.197	.208	.223	.229	.226	.218	.201	.177	.171	.148	.069	.014	.014	.012	.012	-.014	-.015	-.022	-.015	-.007	-.006
16	4.01	6.17	.077	.069	.083	.195	.224	.224	.209	.206	.212	.224	.228	.221	.211	.199	.182	.135	.143	.134	.059	.039	.039	.037	.011	.008	.004	.014	.020	.021
17	0.06	5.04	.147	.025	.052	.171	.202	.212	.202	.200	.207	.212	.216	.207	.197	.186	.173	.140	.098	.122	.138	.071	.057	.067	.029	.022	.032	.050	.070	.071
18	-2.38	4.19	.126	-.012	.016	.113	.149	.155	.147	.148	.156	.157	.157	.149	.140	.133	.121	.091	.061	.020	.048	.093	.064	.044	.019	.007	.011	.031	.046	.047
19	-5.00	3.54	.067	-.078	.006	.085	.103	.096	.086	.084	.088	.084	.079	.071	.062	.059	.057	.042	.033	.004	-.073	.025	.111	.039	-.013	-.030	-.024	-.016	-.014	-.013
20	-7.76	3.41	.004	-.111	.011	.094	.116	.112	.108	.105	.101	.089	.075	.064	.054	.043	.056	.049	.037	.025	-.003	-.052	.044	.138	.037	-.039	-.046	-.035	-.027	-.022
21	-8.77	3.31	-.019	-.121	.012	.069	.091	.081	.080	.079	.070	.064	.053	.042	.035	.017	.033	.046	.046	.037	.026	.021	-.058	.042	.112	.021	-.017	-.017	-.023	-.028
22	-10.10	3.39	.025	-.072	.018	.027	.023	.019	.021	.020	.014	.004	.004	.002	-.004	-.016	-.014	-.003	.008	.015	.000	.022	-.012	-.093	.006	.079	.056	.016	-.012	-.009
23	-11.20	3.51	.064	-.037	-.003	.008	.012	.009	.003	.005	.004	-.001	-.002	-.003	-.010	-.021	-.030	-.024	-.022	-.021	-.025	-.010	.002	-.058	-.137	-.046	.057	.040	-.012	-.024
24	-12.16	3.81	.093	-.002	.018	.030	.033	.006	-.003	.012	.016	.009	.010	.011	.003	-.010	-.012	-.017	-.018	.003	.004	-.000	.021	.026	-.060	-.121	-.030	.066	.061	.019
25	-12.94	4.14	.070	-.016	.004	.032	.027	.008	.010	.010	.012	.012	.009	.009	-.003	-.005	-.010	-.018	-.019	.006	.007	.013	.027	.026	-.023	-.089	-.101	-.013	.074	.048
26	-13.51	4.56	.034	-.014	.016	.033	.029	.007	-.000	.002	-.002	-.000	.005	.012	-.003	-.002	-.009	-.012	-.010	-.000	-.009	-.000	.003	.006	-.027	-.067	-.105	-.121	-.017	.056
27	-14.78	5.02	.048	-.024	.003	.029	.039	.020	.015	.013	.018	.021	.024	.030	.021	.013	.004	-.001	-.000	.009	-.002	.005	.005	.004	-.015	-.038	-.070	-.114	-.090	.006

TABLE V. 16 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

FALL

ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY.
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3276

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.05	-0.28	-0.07	-0.26	-0.48	-0.84	-0.98	-0.91	-0.80	-0.54	-0.25	0.27	1.05	1.64	1.83	1.57	0.99	0.37	-0.16	-0.43	-0.57	-0.60	-0.59	-0.48	-0.41	-0.33	-0.33	-0.32
			SD	2.19	3.21	4.71	6.49	7.85	9.07	10.49	11.88	13.28	14.47	15.34	15.46	14.85	13.37	11.54	9.83	7.74	6.07	4.78	3.81	3.23	2.94	2.78	2.76	2.87	2.94	3.04	3.31
SFC	0.76	2.53	.554	.211	.061	.004	-.035	-.049	-.049	-.054	-.038	-.042	-.034	-.025	-.012	-.007	-.024	-.052	-.091	-.128	-.148	-.167	-.174	-.188	-.194	-.193	-.183	-.189	-.186	-.195
1	-0.12	2.96	.241	-.115	.098	.076	.027	.016	.014	.007	.023	.048	.068	.089	.095	.079	.070	.045	.017	-.011	-.016	-.041	-.042	-.074	-.075	-.085	-.082	-.097	-.099	-.096
2	0.17	4.55	-.005	-.118	-.061	-.021	-.036	-.036	-.029	-.023	-.007	.028	.055	.079	.093	.081	.054	.012	-.025	-.068	-.090	-.128	-.130	-.156	-.148	-.148	-.146	-.160	-.170	-.169
3	1.49	6.30	.019	-.060	.075	.033	-.010	-.017	-.009	-.007	.018	.058	.092	.120	.135	.115	.093	.046	-.007	-.067	-.103	-.146	-.154	-.170	-.165	-.168	-.164	-.181	-.195	-.195
4	3.19	7.43	.052	-.025	.105	.069	.025	.008	.017	.021	.050	.090	.122	.150	.158	.136	.109	.063	.015	-.045	-.081	-.119	-.126	-.146	-.146	-.145	-.140	-.158	-.169	-.171
5	4.74	8.36	.055	.001	.119	.088	.048	.038	.037	.042	.077	.112	.146	.175	.186	.159	.132	.086	.040	-.012	-.048	-.079	-.090	-.115	-.112	-.112	-.117	-.134	-.144	-.146
6	6.21	9.41	.055	.017	.122	.100	.064	.051	.049	.050	.083	.118	.151	.178	.186	.163	.136	.095	.056	.010	-.027	-.060	-.068	-.097	-.101	-.100	-.107	-.127	-.136	-.137
7	7.69	10.51	.045	.018	.122	.104	.065	.063	.076	.082	.116	.149	.175	.196	.200	.170	.141	.103	.063	.017	-.018	-.048	-.052	-.086	-.091	-.088	-.094	-.114	-.126	-.129
8	9.35	11.79	.048	.011	.124	.110	.072	.068	.081	.098	.141	.176	.200	.218	.221	.188	.153	.113	.071	.022	-.015	-.045	-.048	-.081	-.090	-.091	-.100	-.121	-.134	-.136
9	10.99	12.59	.052	.011	.124	.114	.081	.078	.091	.107	.154	.197	.223	.237	.240	.202	.163	.122	.079	.026	-.006	-.041	-.045	-.080	-.088	-.090	-.099	-.119	-.134	-.140
10	12.91	13.47	.059	.006	.114	.109	.078	.077	.093	.110	.159	.207	.242	.262	.262	.222	.175	.133	.089	.034	.001	-.034	-.043	-.080	-.092	-.094	-.103	-.121	-.135	-.142
11	14.89	14.32	.059	.007	.120	.115	.080	.081	.097	.113	.159	.212	.251	.281	.290	.249	.195	.156	.102	.047	.010	-.023	-.035	-.071	-.086	-.091	-.104	-.124	-.139	-.147
12	16.99	13.87	.060	.014	.124	.112	.075	.072	.088	.101	.144	.195	.238	.271	.287	.262	.211	.168	.111	.058	.019	-.017	-.030	-.071	-.086	-.093	-.107	-.125	-.140	-.149
13	16.83	12.58	.062	.013	.123	.110	.078	.078	.090	.105	.139	.187	.228	.264	.276	.266	.235	.185	.126	.067	.026	-.008	-.027	-.067	-.089	-.102	-.118	-.136	-.154	-.163
14	15.61	11.34	.060	.032	.136	.118	.086	.087	.097	.110	.141	.184	.223	.260	.277	.263	.253	.224	.155	.091	.048	.008	-.014	-.059	-.083	-.096	-.114	-.132	-.152	-.164
15	13.55	9.38	.059	.038	.145	.126	.095	.095	.106	.113	.139	.180	.219	.252	.269	.263	.239	.221	.176	.103	.055	.015	-.012	-.057	-.080	-.093	-.113	-.131	-.152	-.162
16	10.87	8.33	.067	.048	.152	.133	.109	.114	.122	.128	.149	.183	.217	.249	.262	.257	.246	.219	.192	.149	.093	.049	.023	-.022	-.049	-.059	-.082	-.105	-.129	-.138
17	7.72	7.12	.083	.043	.147	.140	.125	.138	.146	.151	.160	.186	.213	.241	.250	.247	.241	.225	.181	.164	.148	.093	.059	.013	-.018	-.029	-.058	-.083	-.114	-.126
18	4.74	6.56	.077	.028	.148	.147	.144	.164	.169	.171	.173	.194	.213	.234	.241	.233	.228	.224	.201	.163	.175	.169	.127	.066	.037	.019	-.015	-.047	-.082	-.097
19	2.46	6.30	.040	.027	.151	.148	.149	.174	.182	.176	.182	.195	.208	.223	.216	.209	.207	.206	.199	.177	.148	.175	.196	.119	.072	.045	-.002	-.037	-.074	-.089
20	0.85	5.58	.012	.002	.146	.143	.146	.166	.178	.174	.170	.179	.186	.188	.177	.167	.168	.162	.153	.146	.136	.115	.147	.158	.102	.045	-.015	-.052	-.092	-.105
21	-0.10	5.48	-.015	-.016	.123	.132	.137	.161	.171	.179	.169	.168	.175	.176	.161	.149	.151	.133	.126	.112	.112	.115	.083	.114	.139	.076	.006	-.046	-.081	-.095
22	-0.32	5.76	-.003	.010	.120	.135	.156	.180	.185	.190	.179	.172	.177	.171	.167	.160	.155	.143	.127	.106	.107	.116	.106	.067	.090	.114	.042	-.020	-.061	-.088
23	-0.52	6.35	.009	.016	.109	.125	.135	.150	.159	.160	.147	.149	.156	.150	.144	.138	.137	.135	.117	.096	.089	.095	.102	.090	.050	.038	.095	.050	-.000	-.041
24	-0.35	7.03	.020	.007	.102	.119	.116	.130	.130	.140	.125	.127	.132	.131	.124	.116	.114	.111	.095	.077	.055	.074	.098	.106	.079	.068	.088	.100	.060	.020
25	0.18	7.74	.025	.010	.080	.092	.094	.095	.098	.111	.110	.110	.109	.107	.101	.090	.093	.085	.080	.057	.041	.067	.086	.094	.100	.087	.071	.100	.108	.079
26	0.36	8.68	.042	-.003	.056	.075	.083	.088	.092	.100	.104	.104	.102	.099	.096	.083	.095	.085	.085	.073	.069	.082	.104	.116	.135	.134	.122	.117	.132	.138
27	1.77	9.70	.026	-.002	.054	.078	.078	.083	.091	.100	.102	.105	.113	.110	.112	.105	.112	.106	.106	.085	.075	.085	.112	.112	.129	.142	.146	.143	.140	.144

TABLE V. 17 CROSSLEVEL AND INTRALEVEL COEFFICIENTS OF LINEAR CORRELATIONS BETWEEN WIND COMPONENTS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: ZONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM WEST, UNIT ms^{-1}
MERIDIONAL MEAN VALUES - POSITIVE FOR WIND COMPONENTS FROM SOUTH, UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

INTRALEVEL CORRELATION COEFFICIENTS
BETWEEN ZONAL AND MERIDIONAL WIND COMPONENTS AT THE SAME ALTITUDES ARE VALUES BETWEEN THE DIAGONAL LINES.
CROSSLEVEL CORRELATION COEFFICIENTS
FOR MERIDIONAL WIND, USE ALTITUDE VALUES ACROSS THE TOP OF THE TABLE WITH ZONAL WIND, GIVEN BY ALTITUDE IN THE VERTICAL COLUMN AT THE LEFT

ANNUAL
ZONAL AND MERIDIONAL WIND COMPONENT CORRELATIONS
SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 13152

ALTITUDE (MSL) km	ZONAL MEAN	SD	ALTITUDE (MSL) km / MERIDIONAL MEAN / SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			MERIDIONAL MEAN	0.24	-0.43	-0.46	-0.59	-0.61	-0.75	-0.79	-0.76	-0.68	-0.48	-0.10	0.40	1.17	1.79	1.90	1.58	1.04	0.50	-0.02	-0.39	-0.59	-0.68	-0.74	-0.72	-0.71	-0.67	-0.71	-0.69
			SD	2.25	3.44	4.87	6.77	8.17	9.37	10.61	11.92	13.40	14.60	15.51	15.81	14.94	13.36	11.49	9.53	7.81	6.27	5.07	4.16	3.53	3.22	3.11	3.10	3.18	3.33	3.59	3.91
SFC	1.16	2.74		.534	.211	.096	.031	-.003	-.025	-.031	-.036	-.034	-.036	-.036	-.044	-.056	-.066	-.086	-.121	-.154	-.173	-.188	-.199	-.205	-.210	-.221	-.219	-.213	-.212	-.210	-.210
1	0.19	3.20		.325	-.144	.085	.091	.066	.046	.037	.037	.048	.061	.063	.054	.039	.014	-.013	-.037	-.058	-.072	-.068	-.057	-.049	-.053	-.057	-.057	-.060	-.070	-.075	-.077
2	1.02	4.81		-.008	-.140	-.030	-.050	-.054	-.060	-.057	-.048	-.031	-.011	-.001	-.007	-.020	-.041	-.075	-.114	-.149	-.174	-.177	-.170	-.162	-.161	-.157	-.151	-.151	-.158	-.161	-.162
3	3.01	6.52		.015	-.083	.041	-.020	-.054	-.070	-.068	-.060	-.040	-.016	-.003	-.008	-.022	-.048	-.087	-.134	-.182	-.220	-.233	-.234	-.226	-.222	-.220	-.214	-.213	-.218	-.223	-.223
4	5.11	7.92		.046	-.036	.101	.041	.001	-.030	-.035	-.028	-.009	.013	.026	.016	-.002	-.029	-.067	-.117	-.165	-.204	-.221	-.225	-.219	-.218	-.218	-.213	-.213	-.217	-.217	-.216
5	6.77	9.32		.049	-.013	.124	.073	.039	.010	-.001	.006	.025	.046	.058	.046	.028	.002	-.039	-.087	-.133	-.171	-.189	-.193	-.190	-.193	-.194	-.190	-.194	-.199	-.200	-.198
6	8.42	10.28		.050	.000	.131	.087	.055	.036	.027	.031	.048	.069	.081	.068	.048	.023	-.020	-.066	-.111	-.148	-.165	-.171	-.172	-.178	-.182	-.179	-.184	-.189	-.189	-.187
7	10.07	11.53		.047	.002	.130	.092	.066	.049	.050	.059	.075	.095	.106	.090	.068	.039	-.005	-.051	-.095	-.131	-.151	-.157	-.159	-.166	-.170	-.169	-.174	-.179	-.178	-.176
8	11.87	12.76		.050	-.005	.126	.095	.070	.056	.059	.076	.098	.118	.128	.110	.085	.052	.007	-.042	-.087	-.124	-.144	-.153	-.156	-.162	-.167	-.168	-.174	-.179	-.179	-.177
9	13.72	13.73		.054	-.011	.119	.097	.074	.059	.062	.080	.107	.133	.144	.126	.100	.063	.016	-.033	-.080	-.118	-.138	-.150	-.154	-.162	-.169	-.171	-.176	-.183	-.183	-.182
10	15.91	14.58		.065	-.019	.108	.089	.068	.053	.058	.076	.105	.134	.151	.139	.111	.071	.021	-.029	-.079	-.121	-.143	-.155	-.162	-.172	-.182	-.183	-.189	-.195	-.195	-.195
11	18.06	15.24		.074	-.023	.101	.083	.060	.045	.049	.067	.095	.126	.145	.141	.122	.081	.025	-.026	-.080	-.124	-.147	-.160	-.170	-.178	-.189	-.192	-.198	-.204	-.205	-.205
12	19.39	14.57		.082	-.018	.102	.083	.057	.040	.043	.057	.082	.112	.130	.126	.113	.087	.031	-.022	-.077	-.122	-.146	-.158	-.167	-.176	-.189	-.193	-.202	-.209	-.210	-.210
13	19.49	13.17		.088	-.011	.107	.087	.062	.044	.043	.055	.075	.100	.116	.114	.098	.082	.043	-.011	-.070	-.119	-.142	-.155	-.162	-.171	-.186	-.194	-.205	-.214	-.216	-.218
14	18.09	11.55		.091	.002	.121	.097	.071	.053	.050	.060	.077	.099	.112	.111	.099	.077	.048	.013	-.049	-.102	-.129	-.143	-.154	-.166	-.181	-.190	-.201	-.211	-.215	-.216
15	15.76	10.22		.098	.020	.138	.110	.083	.064	.059	.066	.081	.104	.116	.114	.104	.086	.046	-.017	-.023	-.081	-.113	-.127	-.139	-.150	-.167	-.175	-.187	-.198	-.202	-.204
16	12.53	9.25		.115	.031	.145	.119	.099	.081	.073	.080	.091	.111	.121	.117	.106	.090	.057	.014	-.016	-.048	-.085	-.104	-.116	-.129	-.145	-.154	-.168	-.180	-.185	-.187
17	9.18	8.51		.130	.036	.149	.132	.120	.105	.097	.104	.113	.129	.135	.130	.116	.100	.074	.041	-.007	-.030	-.042	-.066	-.083	-.097	-.115	-.127	-.141	-.153	-.159	-.162
18	5.65	7.98		.128	.038	.155	.135	.126	.116	.109	.114	.121	.131	.130	.122	.107	.091	.069	.044	.010	-.033	-.031	-.020	-.037	-.059	-.078	-.094	-.113	-.127	-.134	-.139
19	2.70	7.42		.110	.029	.149	.126	.114	.107	.104	.107	.114	.120	.114	.099	.080	.065	.045	.024	-.000	-.036	-.060	-.039	-.005	-.039	-.069	-.088	-.110	-.127	-.138	-.143
20	0.39	7.37		.092	.016	.132	.111	.102	.094	.095	.100	.102	.104	.097	.080	.058	.042	.026	.006	-.015	-.038	-.053	-.069	-.039	-.016	-.048	-.080	-.103	-.121	-.134	-.139
21	-1.13	7.35		.070	-.002	.115	.091	.084	.079	.082	.089	.088	.086	.079	.064	.044	.028	.012	-.009	-.027	-.050	-.060	-.068	-.081	-.042	-.020	-.050	-.082	-.102	-.114	-.122
22	-2.13	7.36		.076	.009	.092	.072	.070	.065	.066	.071	.068	.064	.057	.041	.028	.016	.001	-.019	-.035	-.054	-.062	-.060	-.062	-.070	-.040	-.017	-.042	-.070	-.089	-.101
23	-2.73	7.97		.094	.019	.090	.067	.059	.053	.056	.058	.056	.052	.045	.030	.017	.006	-.006	-.026	-.038	-.054	-.060	-.053	-.039	-.038	-.049	-.018	-.000	-.017	-.041	-.056
24	-2.99	8.73		.095	.017	.089	.065	.053	.045	.046	.051	.049	.044	.037	.025	.014	.004	-.001	-.017	-.027	-.040	-.043	-.029	-.006	.011	.007	.005	.033	.053	.038	.016
25	-2.92	9.55		.095	.011	.080	.061	.050	.041	.043	.047	.050	.044	.035	.023	.013	.006	.001	-.012	-.019	-.030	-.026	-.006	.018	.043	.058	.057	.057	.079	.096	.081
26	-2.87	10.74		.092	.009	.074	.055	.043	.036	.039	.042	.043	.037	.029	.017	.006	.004	.002	-.010	-.016	-.024	-.018	-.004	.023	.050	.072	.083	.086	.088	.105	.112
27	-2.10	11.91		.081	.002	.058	.042	.034	.031	.035	.035	.035	.032	.025	.015	.010	.013	.013	.004	-.000	-.007	-.001	.011	.041	.065	.088	.107	.116	.116	.119	.127

TABLE VI

Page

Interlevel Coefficients of Linear Correlation between Scalar Winds, Santa Monica, California

TABLE VI.1 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

JANUARY

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km			ALTITUDE (MSL) km																											
	SCALAR MEAN			2.97	4.48	7.02	10.51	13.43	16.04	18.45	21.03	23.89	26.44	28.79	30.22	30.01	28.58	26.16	23.02	19.69	16.32	13.06	10.22	8.59	8.40	8.77	9.46	10.19	11.39	12.77	14.07
	SD			2.08	3.32	4.23	5.66	6.99	8.51	9.48	10.80	12.01	12.90	13.46	14.35	14.02	12.42	11.02	8.95	7.55	6.98	6.43	5.93	5.41	5.49	6.02	6.48	7.14	8.00	8.69	9.17
SFC	2.97	2.08		1.000																										
1	4.48	3.32		.344	1.000																									
2	7.02	4.23		.127	.505	1.000																								
3	10.51	5.66		.112	.322	.714	1.000																							
4	13.43	6.99		.130	.335	.614	.834	1.000																						
5	16.04	8.51		.153	.303	.560	.755	.884	1.000																					
6	18.45	9.48		.164	.320	.508	.670	.794	.901	1.000																				
7	21.03	10.80		.174	.333	.467	.603	.725	.818	.919	1.000																			
8	23.89	12.01		.167	.335	.448	.566	.683	.773	.853	.937	1.000																		
9	26.44	12.90		.145	.307	.414	.522	.639	.726	.793	.861	.935	1.000																	
10	28.79	13.46		.091	.246	.363	.485	.595	.658	.721	.774	.844	.924	1.000																
11	30.22	14.35		.027	.192	.314	.433	.531	.584	.641	.683	.742	.816	.911	1.000															
12	30.01	14.02		-.012	.180	.296	.413	.494	.537	.583	.614	.656	.711	.803	.906	1.000														
13	28.58	12.42		-.030	.161	.275	.382	.455	.492	.529	.548	.573	.612	.685	.783	.887	1.000													
14	26.16	11.02		-.047	.133	.242	.342	.415	.452	.481	.488	.494	.542	.598	.683	.781	.891	1.000												
15	23.02	8.95		-.021	.114	.225	.324	.376	.407	.430	.432	.429	.463	.519	.595	.695	.796	.890	1.000											
16	19.69	7.55		.014	.095	.191	.290	.338	.357	.382	.358	.352	.364	.404	.470	.566	.680	.759	.868	1.000										
17	16.32	6.98		.043	.069	.205	.308	.317	.319	.319	.282	.271	.275	.308	.354	.442	.561	.640	.714	.854	1.000									
18	13.06	6.43		.063	.069	.186	.275	.285	.271	.278	.246	.232	.218	.242	.267	.334	.426	.512	.589	.700	.839	1.000								
19	10.22	5.93		.079	.093	.140	.188	.207	.199	.219	.197	.178	.149	.149	.155	.204	.262	.351	.417	.543	.656	.837	1.000							
20	8.59	5.41		.098	.112	.129	.147	.163	.167	.189	.168	.163	.136	.127	.127	.157	.204	.269	.305	.419	.525	.660	.842	1.000						
21	8.40	5.49		.080	.125	.129	.127	.153	.163	.190	.173	.173	.155	.135	.136	.144	.166	.221	.232	.302	.391	.522	.683	.860	1.000					
22	8.77	6.02		.066	.105	.090	.083	.088	.100	.128	.121	.120	.106	.087	.084	.056	.109	.149	.155	.210	.283	.408	.568	.725	.897	1.000				
23	9.46	6.48		.053	.080	.068	.056	.046	.056	.085	.088	.084	.072	.048	.044	.057	.073	.120	.119	.173	.230	.349	.519	.675	.814	.915	1.000			
24	10.19	7.14		.043	.049	.043	.035	.015	.025	.049	.048	.046	.033	.011	.008	.017	.037	.092	.093	.151	.212	.335	.502	.631	.754	.832	.935	1.000		
25	11.39	8.00		.034	.028	.018	.016	-.012	-.000	.023	.024	.028	.004	-.014	-.016	-.008	.014	.065	.070	.141	.209	.325	.479	.600	.722	.793	.873	.943	1.000	
26	12.77	8.69		.033	.029	.018	.023	-.007	-.001	.019	.015	.017	-.016	-.034	-.035	-.015	.018	.074	.091	.169	.240	.347	.482	.590	.688	.746	.804	.860	.942	1.000	
27	14.07	9.17		.030	.056	.025	.031	.011	.011	.024	.017	.016	-.022	-.045	-.043	-.025	.011	.063	.085	.163	.238	.341	.452	.545	.637	.689	.729	.780	.864	.954	1.000

TABLE VI.2 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

FEBRUARY

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO - ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1020

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	SCALAR MEAN	2.86	4.66	7.74	11.25	14.24	16.96	19.58	22.27	25.33	28.25	31.51	34.12	34.82	33.20	30.43	26.65	22.89	18.77	14.26	10.61	8.28	7.16	6.87	7.09	7.59	8.47	9.47	10.71
			SD	2.13	3.59	4.46	5.77	7.04	8.38	9.92	11.59	13.19	14.26	15.16	15.69	14.53	12.61	10.98	9.27	7.73	6.82	5.94	5.26	5.07	4.99	5.10	5.31	5.83	6.33	6.93	7.64
SFC	2.86	2.13	1.000																											
1	4.66	3.59	.371	1.000																										
2	7.74	4.46	.211	.601	1.000																									
3	11.25	5.77	.215	.472	.730	1.000																								
4	14.24	7.04	.221	.465	.617	.843	1.000																							
5	16.96	8.38	.252	.440	.547	.754	.884	1.000																						
6	19.58	9.92	.256	.418	.507	.687	.806	.898	1.000																					
7	22.27	11.59	.258	.389	.459	.635	.743	.826	.927	1.000																				
8	25.33	13.19	.260	.382	.452	.591	.684	.757	.857	.940	1.000																			
9	28.25	14.26	.242	.349	.430	.558	.644	.707	.801	.875	.945	1.000																		
10	31.51	15.16	.204	.321	.400	.498	.577	.631	.718	.778	.843	.924	1.000																	
11	34.12	15.69	.180	.286	.367	.440	.498	.554	.640	.686	.738	.813	.916	1.000																
12	34.82	14.53	.186	.267	.365	.423	.463	.503	.573	.607	.653	.716	.800	.914	1.000															
13	33.20	12.61	.181	.228	.344	.403	.442	.483	.536	.557	.594	.646	.704	.796	.897	1.000														
14	30.43	10.98	.206	.245	.343	.416	.442	.465	.503	.514	.546	.579	.617	.680	.769	.888	1.000													
15	26.65	9.27	.195	.239	.337	.408	.434	.448	.482	.497	.528	.556	.575	.623	.704	.810	.895	1.000												
16	22.89	7.73	.174	.189	.299	.355	.391	.420	.439	.442	.465	.490	.511	.548	.621	.724	.787	.881	1.000											
17	18.77	6.82	.154	.155	.274	.328	.359	.390	.392	.390	.400	.419	.454	.491	.547	.639	.688	.726	.850	1.000										
18	14.26	5.94	.122	.134	.235	.268	.304	.321	.323	.319	.320	.345	.371	.406	.427	.500	.541	.592	.674	.815	1.000									
19	10.61	5.26	.087	.078	.172	.198	.204	.224	.224	.229	.231	.257	.286	.324	.329	.366	.389	.417	.503	.588	.807	1.000								
20	8.28	5.07	.037	.029	.139	.160	.156	.175	.183	.183	.177	.200	.226	.255	.253	.261	.268	.293	.388	.470	.627	.817	1.000							
21	7.16	4.99	.015	.038	.122	.106	.114	.124	.134	.127	.118	.141	.174	.209	.197	.186	.174	.199	.289	.354	.492	.650	.846	1.000						
22	6.87	5.10	-.013	.044	.061	.036	.061	.068	.083	.083	.077	.096	.129	.164	.156	.129	.110	.132	.190	.237	.349	.475	.670	.873	1.000					
23	7.09	5.31	-.024	.051	.035	.020	.066	.075	.088	.084	.071	.082	.098	.128	.124	.092	.082	.101	.146	.184	.264	.361	.551	.730	.887	1.000				
24	7.59	5.83	-.000	.053	.032	.010	.051	.073	.087	.079	.065	.081	.098	.126	.128	.098	.097	.112	.146	.170	.207	.274	.466	.624	.774	.905	1.000			
25	8.47	6.33	-.003	.063	.048	.011	.054	.080	.090	.090	.077	.094	.123	.147	.139	.112	.115	.127	.151	.172	.202	.253	.423	.574	.709	.800	.915	1.000		
26	9.47	6.93	-.002	.044	.031	-.004	.045	.073	.087	.093	.081	.101	.133	.162	.148	.124	.117	.106	.127	.156	.189	.241	.367	.517	.651	.723	.819	.926	1.000	
27	10.71	7.64	-.014	.033	.043	.020	.077	.100	.115	.120	.104	.115	.136	.165	.148	.134	.127	.113	.139	.171	.206	.246	.346	.488	.593	.652	.730	.827	.935	1.000

TABLE VI.3 NTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

MARCH

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km		SCALAR MEAN	3.16	4.56	7.24	10.81	13.64	16.28	18.98	21.58	24.52	27.13	29.88	32.29	32.20	30.56	27.00	24.76	21.36	17.45	13.42	9.94	7.31	5.90	5.66	6.08	6.79	7.70	8.85	10.01
		SD	2.46	3.31	4.02	6.01	7.53	8.89	10.17	11.31	12.08	12.65	13.50	14.44	13.29	11.30	9.81	8.48	7.42	6.68	6.01	5.42	4.68	4.08	3.73	3.82	4.13	4.47	5.19	5.92
SFC	3.16	2.46	1.000																											
1	4.56	3.31	.302	1.000																										
2	7.24	4.02	.167	.527	1.000																									
3	10.81	6.01	.224	.376	.738	1.000																								
4	13.64	7.53	.259	.387	.674	.851	1.000																							
5	16.28	8.89	.278	.396	.611	.753	.899	1.000																						
6	18.98	10.17	.276	.380	.553	.678	.813	.917	1.000																					
7	21.58	11.31	.273	.372	.523	.621	.752	.851	.931	1.000																				
8	24.52	12.08	.276	.360	.485	.569	.688	.790	.864	.941	1.000																			
9	27.13	12.65	.251	.327	.458	.527	.632	.734	.795	.868	.936	1.000																		
10	29.88	13.50	.199	.304	.396	.443	.534	.634	.690	.760	.821	.911	1.000																	
11	32.29	14.44	.139	.260	.334	.363	.440	.523	.559	.613	.669	.762	.906	1.000																
12	32.20	13.29	.082	.201	.270	.295	.365	.431	.452	.500	.542	.637	.786	.916	1.000															
13	30.56	11.30	.063	.177	.264	.282	.341	.386	.406	.442	.474	.552	.671	.794	.894	1.000														
14	27.00	9.81	.049	.144	.246	.271	.330	.358	.378	.404	.420	.478	.565	.663	.765	.888	1.000													
15	24.76	8.48	.043	.124	.213	.259	.319	.346	.359	.379	.396	.443	.510	.601	.701	.819	.910	1.000												
16	21.36	7.42	.002	.055	.181	.224	.283	.296	.306	.330	.340	.379	.434	.524	.624	.743	.830	.906	1.000											
17	17.45	6.68	.006	.018	.159	.229	.280	.287	.293	.304	.295	.333	.374	.451	.535	.665	.753	.801	.873	1.000										
18	13.42	6.01	.014	.018	.180	.245	.280	.277	.274	.285	.271	.303	.333	.383	.445	.566	.656	.702	.745	.872	1.000									
19	9.94	5.42	.031	.042	.192	.246	.272	.268	.262	.272	.263	.285	.307	.344	.388	.485	.575	.631	.669	.753	.879	1.000								
20	7.31	4.68	.012	.034	.172	.228	.242	.237	.237	.250	.240	.255	.270	.300	.327	.402	.486	.541	.584	.655	.733	.855	1.000							
21	5.90	4.08	.016	.028	.144	.196	.211	.222	.230	.230	.217	.224	.241	.263	.277	.349	.418	.455	.489	.558	.620	.687	.831	1.000						
22	5.66	3.73	.034	.055	.125	.146	.159	.180	.202	.208	.204	.201	.218	.225	.227	.289	.343	.365	.385	.433	.494	.549	.633	.812	1.000					
23	6.08	3.82	.059	.107	.132	.142	.145	.165	.198	.214	.216	.210	.223	.223	.211	.261	.281	.289	.303	.336	.382	.417	.494	.600	.803	1.000				
24	6.79	4.13	.059	.120	.119	.105	.107	.120	.136	.160	.163	.175	.196	.206	.186	.211	.207	.215	.218	.238	.252	.271	.348	.429	.589	.828	1.000			
25	7.70	4.47	.046	.116	.086	.058	.062	.074	.083	.107	.114	.135	.164	.177	.161	.168	.159	.169	.162	.172	.176	.190	.266	.347	.470	.658	.857	1.000		
26	8.85	5.19	.041	.110	.089	.064	.065	.079	.088	.099	.106	.116	.136	.150	.143	.147	.132	.145	.138	.145	.142	.155	.228	.310	.428	.575	.734	.892	1.000	
27	10.01	5.92	.045	.113	.096	.063	.061	.089	.105	.124	.140	.151	.171	.180	.168	.172	.162	.172	.152	.151	.153	.167	.228	.307	.412	.542	.674	.784	.918	1.000

TABLE VI.4 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

APRIL

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
SCALAR MEAN			3.31	4.33	6.56	9.55	12.21	14.81	17.33	19.00	22.82	25.21	27.29	28.79	28.91	27.84	25.64	22.80	19.71	16.09	12.30	8.98	6.57	5.24	4.75	4.78	4.92	5.25	5.78	6.50
SD			2.48	2.98	3.79	5.33	6.75	8.23	9.68	11.09	12.36	12.92	13.36	13.45	12.52	10.84	9.06	7.44	6.62	5.89	5.49	4.84	3.92	3.17	3.09	3.16	3.18	3.51	3.00	4.56
SFC	3.31	2.48	1.000																											
1	4.33	2.98	.267	1.000																										
2	6.56	3.79	.152	.443	1.000																									
3	9.55	5.33	.200	.318	.661	1.000																								
4	12.21	6.75	.254	.327	.580	.815	1.000																							
5	14.81	8.23	.283	.335	.539	.711	.889	1.000																						
6	17.33	9.68	.289	.358	.522	.663	.814	.920	1.000																					
7	19.00	11.09	.279	.354	.507	.626	.764	.852	.939	1.000																				
8	22.82	12.36	.264	.351	.492	.581	.714	.798	.886	.950	1.000																			
9	25.21	12.92	.243	.322	.448	.526	.663	.751	.832	.891	.956	1.000																		
10	27.29	13.36	.208	.270	.399	.489	.615	.703	.778	.827	.885	.939	1.000																	
11	28.79	13.45	.172	.218	.348	.446	.575	.660	.723	.772	.820	.865	.940	1.000																
12	28.91	12.52	.164	.172	.311	.433	.552	.632	.688	.721	.757	.791	.862	.930	1.000															
13	27.84	10.84	.167	.189	.316	.423	.536	.608	.650	.657	.678	.694	.750	.803	.896	1.000														
14	25.64	9.06	.147	.175	.291	.399	.512	.561	.585	.587	.582	.582	.624	.677	.757	.867	1.000													
15	22.80	7.44	.149	.185	.299	.378	.496	.549	.571	.564	.554	.533	.562	.611	.677	.773	.870	1.000												
16	19.71	6.62	.142	.142	.275	.341	.441	.491	.508	.503	.494	.469	.488	.525	.572	.657	.747	.884	1.000											
17	16.09	5.89	.125	.096	.202	.294	.382	.413	.423	.399	.391	.361	.380	.412	.457	.544	.636	.743	.855	1.000										
18	12.30	5.49	.142	.130	.223	.282	.358	.380	.384	.360	.347	.318	.333	.352	.352	.480	.554	.629	.691	.825	1.000									
19	8.98	4.84	.119	.125	.229	.292	.345	.354	.350	.337	.323	.293	.303	.316	.349	.426	.480	.531	.581	.664	.840	1.000								
20	6.57	3.92	.109	.131	.247	.302	.331	.317	.335	.325	.323	.292	.296	.293	.315	.389	.426	.471	.487	.534	.644	.811	1.000							
21	5.24	3.17	.108	.155	.259	.306	.304	.314	.311	.306	.296	.277	.295	.291	.301	.336	.337	.344	.329	.348	.415	.501	.701	1.000						
22	4.75	3.09	.047	.115	.201	.258	.250	.266	.239	.226	.223	.218	.242	.236	.240	.242	.230	.229	.198	.200	.219	.276	.355	.680	1.000					
23	4.78	3.16	.056	.094	.159	.212	.223	.226	.223	.210	.206	.198	.207	.193	.202	.198	.179	.172	.130	.127	.147	.182	.235	.470	.784	1.000				
24	4.92	3.18	.017	.054	.158	.166	.201	.212	.209	.198	.193	.186	.190	.185	.196	.184	.170	.169	.122	.121	.126	.137	.191	.383	.581	.769	1.000			
25	5.25	3.51	.024	.082	.186	.191	.224	.230	.208	.174	.158	.155	.155	.160	.188	.211	.219	.234	.187	.154	.142	.147	.185	.348	.483	.611	.796	1.000		
26	5.78	3.00	.054	.100	.182	.200	.216	.220	.196	.161	.148	.140	.139	.136	.174	.205	.227	.249	.209	.177	.167	.172	.182	.298	.397	.484	.619	.839	1.000	
27	6.50	4.56	.055	.081	.144	.168	.184	.187	.155	.125	.113	.105	.104	.113	.141	.159	.188	.230	.199	.192	.204	.193	.180	.263	.309	.365	.475	.646	.852	1.000

TABLE VI.5 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

MAY

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km			SCALAR MEAN	3.38	3.50	6.02	8.72	11.24	13.44	15.87	18.27	20.69	23.06	25.31	27.18	27.33	26.15	23.50	20.03	16.14	12.14	8.06	5.29	4.21	4.08	4.33	4.70	4.98	5.15	5.32	5.61
			SD	2.38	2.15	2.97	4.69	6.48	7.85	9.30	10.38	11.28	11.98	12.45	12.55	11.65	10.47	8.80	7.31	6.27	5.40	4.32	3.02	2.50	2.31	2.42	2.73	3.24	3.38	3.36	3.57
SFC	3.38	2.38	1.000																											
1	3.50	2.15	.066	1.000																										
2	6.02	2.97	.005	.205	1.000																									
3	8.72	4.69	.104	.177	.610	1.000																								
4	11.24	6.48	.133	.198	.525	.838	1.000																							
5	13.44	7.85	.162	.170	.454	.734	.891	1.000																						
6	15.87	9.30	.172	.184	.422	.675	.813	.926	1.000																					
7	18.27	10.38	.165	.185	.395	.626	.762	.872	.943	1.000																				
8	20.69	11.28	.174	.171	.375	.590	.716	.825	.895	.952	1.000																			
9	23.06	11.98	.150	.154	.361	.556	.676	.780	.844	.902	.953	1.000																		
10	25.31	12.45	.150	.132	.321	.518	.635	.734	.792	.851	.899	.952	1.000																	
11	27.18	12.55	.140	.096	.291	.504	.610	.701	.755	.804	.849	.901	.947	1.000																
12	27.33	11.65	.139	.079	.274	.474	.576	.653	.690	.728	.758	.809	.856	.925	1.000															
13	26.15	10.47	.101	.092	.262	.449	.541	.596	.611	.631	.648	.696	.736	.797	.895	1.000														
14	23.50	8.80	.129	.108	.265	.464	.548	.593	.597	.605	.609	.640	.672	.715	.754	.887	1.000													
15	20.03	7.31	.115	.093	.245	.447	.522	.550	.543	.544	.536	.558	.587	.618	.682	.762	.884	1.000												
16	16.14	6.27	.113	.123	.228	.416	.485	.499	.470	.486	.470	.481	.505	.518	.558	.624	.741	.868	1.000											
17	12.14	5.40	.127	.095	.174	.316	.385	.398	.366	.379	.379	.395	.413	.415	.443	.484	.599	.702	.845	1.000										
18	8.06	4.32	.126	.077	.157	.298	.356	.358	.330	.345	.350	.368	.371	.366	.382	.410	.494	.587	.672	.825	1.000									
19	5.29	3.02	.122	.052	.145	.262	.300	.318	.301	.325	.310	.315	.309	.307	.321	.321	.373	.408	.469	.538	.715	1.000								
20	4.21	2.50	.070	-.041	.111	.174	.197	.205	.208	.227	.228	.229	.223	.223	.233	.225	.221	.187	.208	.217	.311	.563	1.000							
21	4.08	2.31	-.018	-.049	.068	.094	.084	.066	.074	.102	.100	.095	.097	.098	.110	.111	.088	.036	.018	-.020	.010	.196	.600	1.000						
22	4.33	2.42	-.034	-.071	-.008	-.025	-.016	-.013	-.001	.005	-.002	.007	.010	.036	.065	.090	.057	-.013	-.046	-.112	-.111	.042	.341	.671	1.000					
23	4.70	2.73	-.050	-.099	-.026	-.053	-.046	-.041	-.027	-.030	-.035	-.022	-.019	.003	.026	.055	.022	-.038	-.075	-.131	-.117	.019	.252	.457	.735	1.000				
24	4.98	3.24	-.076	-.093	-.009	-.019	-.018	-.008	.008	.003	-.005	.010	.012	.022	.052	.082	.030	-.015	-.052	-.127	-.102	-.005	.190	.365	.552	.800	1.000			
25	5.15	3.38	-.054	-.103	-.006	-.023	-.025	-.018	-.000	-.000	.000	.021	.022	.034	.070	.080	.030	-.012	-.049	-.114	-.075	-.010	.170	.319	.483	.649	.839	1.000		
26	5.32	3.36	-.032	-.093	.000	-.015	-.013	-.014	.001	.011	.019	.043	.043	.051	.085	.080	.029	-.009	-.036	-.077	-.035	.015	.163	.280	.426	.550	.684	.837	1.000	
27	5.61	3.57	-.017	-.056	.014	.027	.028	.007	.018	.029	.037	.054	.046	.046	.068	.062	.005	-.018	-.026	-.063	-.023	.016	.148	.241	.355	.446	.544	.652	.830	1.000

TABLE VI.6 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

JUNE

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
SCALAR MEAN			3.09	3.42	5.43	7.37	8.73	9.73	10.99	12.38	14.27	16.18	18.27	20.42	21.66	21.55	19.32	15.46	11.31	7.48	5.17	4.91	6.10	7.37	8.23	8.94	9.52	10.03	10.35	10.72
SD			2.10	2.19	2.92	4.20	5.03	5.85	6.66	7.35	8.31	9.03	9.64	10.31	10.54	10.40	9.23	7.23	5.48	3.55	2.73	2.58	2.89	3.02	3.06	3.26	3.49	3.78	4.15	4.64
SFC	3.09	2.10	1.000																											
1	3.42	2.19	-.012	1.000																										
2	5.43	2.92	.013	.187	1.000																									
3	7.37	4.20	.020	.051	.613	1.000																								
4	8.73	5.03	.064	.062	.480	.772	1.000																							
5	9.73	5.85	.082	.041	.418	.623	.832	1.000																						
6	10.99	6.66	.070	.021	.364	.550	.725	.890	1.000																					
7	12.38	7.35	.076	-.010	.326	.483	.657	.810	.918	1.000																				
8	14.27	8.31	.082	-.033	.275	.431	.591	.731	.845	.935	1.000																			
9	16.18	9.03	.077	-.041	.234	.398	.545	.666	.779	.866	.941	1.000																		
10	18.27	9.64	.071	-.058	.196	.367	.502	.609	.716	.803	.879	.932	1.000																	
11	20.42	10.31	.081	-.075	.179	.344	.468	.557	.656	.734	.803	.852	.934	1.000																
12	21.66	10.54	.070	-.082	.167	.325	.427	.514	.600	.660	.715	.753	.837	.925	1.000															
13	21.55	10.40	.048	-.109	.151	.310	.385	.464	.536	.583	.615	.642	.708	.797	.904	1.000														
14	19.32	9.23	.035	-.107	.155	.327	.401	.458	.509	.540	.554	.569	.624	.700	.805	.913	1.000													
15	15.46	7.23	.021	-.092	.195	.347	.413	.469	.513	.529	.536	.539	.567	.626	.722	.819	.904	1.000												
16	11.31	5.48	.016	-.097	.209	.331	.390	.457	.506	.510	.508	.500	.506	.540	.614	.696	.773	.877	1.000											
17	7.48	3.95	.057	-.053	.193	.273	.312	.378	.418	.435	.427	.402	.396	.413	.452	.494	.554	.629	.785	1.000										
18	5.17	2.73	.046	.034	.147	.146	.177	.210	.221	.232	.214	.201	.203	.214	.224	.228	.243	.293	.371	.591	1.000									
19	4.91	2.58	-.115	.110	-.008	-.020	.021	-.005	-.024	-.035	-.034	-.041	-.035	-.026	-.040	-.060	-.072	-.096	-.080	.012	.461	1.000								
20	6.10	2.89	-.166	.097	-.085	-.099	-.072	-.112	-.140	-.145	-.150	-.137	-.134	-.128	-.131	-.140	-.164	-.206	-.243	-.204	.139	.666	1.000							
21	7.37	3.02	-.091	.104	-.088	-.118	-.129	-.192	-.223	-.229	-.231	-.221	-.210	-.202	-.195	-.190	-.203	-.247	-.295	-.262	.041	.477	.752	1.000						
22	8.23	3.06	-.059	.098	-.078	-.115	-.106	-.164	-.191	-.200	-.211	-.201	-.175	-.161	-.143	-.129	-.142	-.175	-.244	-.216	.061	.411	.572	.774	1.000					
23	8.94	3.26	-.063	.093	-.041	-.070	-.066	-.116	-.142	-.157	-.181	-.172	-.151	-.135	-.111	-.089	-.092	-.124	-.187	-.156	.098	.420	.524	.592	.795	1.000				
24	9.52	3.49	-.072	.100	-.015	-.028	-.026	-.076	-.120	-.131	-.150	-.135	-.114	-.114	-.087	-.069	-.081	-.120	-.169	-.153	.098	.399	.478	.530	.632	.821	1.000			
25	10.03	3.78	-.082	.080	.019	-.031	-.038	-.078	-.130	-.129	-.147	-.142	-.121	-.126	-.114	-.114	-.136	-.157	-.196	-.204	.033	.354	.456	.540	.582	.647	.839	1.000		
26	10.35	4.15	-.032	.079	.017	-.057	-.072	-.111	-.150	-.156	-.171	-.172	-.158	-.161	-.154	-.169	-.200	-.230	-.263	-.256	.010	.336	.444	.511	.562	.600	.703	.856	1.000	
27	10.72	4.64	.009	.092	.010	-.063	-.063	-.094	-.117	-.121	-.146	-.147	-.133	-.139	-.136	-.156	-.181	-.203	-.231	-.219	.014	.312	.407	.444	.498	.539	.598	.695	.885	1.000

TABLE VI.7 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

JULY

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD																												
			SCALAR MEAN	3.00	2.92	4.64	6.24	7.16	7.60	8.49	9.52	10.89	12.49	14.36	16.12	16.87	16.43	14.30	11.03	7.77	5.91	5.96	7.34	8.97	10.48	11.79	12.98	14.10	14.95	15.83	16.79
			SD	2.02	1.83	2.37	3.37	3.72	4.06	4.70	5.49	6.41	7.18	7.99	8.69	9.12	9.17	8.13	6.10	4.12	2.67	2.46	2.74	2.72	2.78	2.77	2.89	3.09	3.51	3.85	4.08
SFC	3.00	2.02	1.000																											
1	2.92	1.83	.042	1.000																										
2	4.64	2.37	-.040	.150	1.000																									
3	6.24	3.37	-.010	.021	.547	1.000																								
4	7.16	3.72	.013	.031	.394	.695	1.000																							
5	7.60	4.06	.025	.053	.285	.453	.714	1.000																						
6	8.49	4.70	.031	-.011	.211	.333	.549	.776	1.000																					
7	9.52	5.49	.016	-.073	.134	.285	.447	.626	.837	1.000																				
8	10.89	6.41	.034	-.085	.122	.280	.439	.580	.749	.898	1.000																			
9	12.49	7.18	.026	-.126	.093	.255	.395	.514	.692	.825	.918	1.000																		
10	14.36	7.99	.018	-.131	.079	.261	.367	.465	.632	.736	.828	.918	1.000																	
11	16.12	8.69	.016	-.129	.104	.281	.357	.443	.582	.679	.760	.840	.930	1.000																
12	16.87	9.12	.012	-.126	.101	.276	.342	.435	.563	.652	.715	.778	.857	.935	1.000															
13	16.43	9.17	.010	-.134	.108	.273	.348	.425	.538	.612	.666	.719	.792	.867	.942	1.000														
14	14.30	8.13	.010	-.136	.122	.276	.361	.440	.539	.604	.648	.692	.749	.804	.869	.925	1.000													
15	11.03	6.10	-.002	-.119	.125	.241	.327	.410	.516	.593	.618	.650	.690	.729	.783	.828	.900	1.000												
16	7.77	4.12	.041	-.065	.117	.201	.286	.371	.446	.495	.522	.536	.557	.583	.626	.659	.703	.812	1.000											
17	5.91	2.67	.154	.030	.034	.098	.123	.170	.192	.169	.162	.173	.186	.200	.227	.253	.293	.337	.511	1.000										
18	5.96	2.46	.004	.091	-.089	-.109	-.114	-.117	-.157	-.205	-.235	-.244	-.262	-.260	-.266	-.282	-.285	-.272	-.140	.348	1.000									
19	7.34	2.74	-.110	.036	-.153	-.181	-.218	-.223	-.295	-.345	-.360	-.367	-.377	-.376	-.399	-.428	-.447	-.437	-.322	.037	.599	1.000								
20	8.97	2.72	-.172	.015	-.170	-.198	-.254	-.256	-.303	-.337	-.341	-.343	-.363	-.367	-.389	-.405	-.420	-.422	-.362	-.045	.397	.697	1.000							
21	10.48	2.78	-.132	.013	-.131	-.212	-.262	-.278	-.311	-.332	-.340	-.350	-.360	-.356	-.370	-.389	-.394	-.404	-.341	-.081	.319	.501	.696	1.000						
22	11.79	2.77	-.049	.047	-.110	-.198	-.244	-.252	-.277	-.293	-.303	-.315	-.332	-.344	-.365	-.376	-.375	-.373	-.307	-.043	.308	.469	.544	.729	1.000					
23	12.98	2.89	.010	.082	-.090	-.166	-.217	-.241	-.256	-.257	-.265	-.293	-.318	-.337	-.374	-.378	-.366	-.351	-.292	-.023	.302	.443	.476	.506	.752	1.000				
24	14.10	3.09	-.002	.053	-.068	-.155	-.220	-.235	-.215	-.221	-.230	-.257	-.268	-.287	-.323	-.328	-.323	-.319	-.262	-.027	.283	.415	.447	.455	.546	.775	1.000			
25	14.95	3.51	-.003	.003	-.081	-.173	-.261	-.266	-.249	-.259	-.260	-.263	-.252	-.270	-.289	-.296	-.301	-.299	-.235	-.038	.246	.386	.400	.401	.448	.566	.788	1.000		
26	15.83	3.85	-.008	.024	-.053	-.139	-.230	-.241	-.249	-.264	-.271	-.271	-.259	-.271	-.251	-.295	-.306	-.315	-.241	-.045	.214	.370	.366	.361	.395	.466	.584	.805	1.000	
27	16.79	4.08	.008	.024	-.049	-.129	-.188	-.212	-.234	-.250	-.265	-.278	-.274	-.289	-.318	-.324	-.324	-.331	-.264	-.058	.175	.322	.309	.336	.368	.418	.481	.616	.824	1.000

TABLE VI.8 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC 31, 1964

SCALAR CORRELATION COEFFICIENTS

USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

AUGUST

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	SCALAR MEAN		2.96	2.99	4.43	5.98	6.94	7.20	7.92	8.94	10.33	12.11	14.22	16.32	17.64	17.36	14.96	11.44	7.94	5.33	4.83	5.96	7.52	9.24	10.93	12.22	13.34	14.31	15.12	15.92
		SD	2.04	1.86	2.25	3.03	3.68	4.08	4.58	5.07	5.68	6.66	7.43	7.92	8.40	8.00	6.81	5.32	4.13	2.83	2.32	2.53	2.82	2.79	2.79	2.90	2.94	3.05	3.33	3.60
SFC	2.96	2.04	1.000																											
1	2.99	1.86	.067	1.000																										
2	4.43	2.25	-.072	.174	1.000																									
3	5.98	3.03	-.058	.058	.520	1.000																								
4	6.94	3.68	-.029	.051	.286	.672	1.000																							
5	7.20	4.08	.020	.058	.184	.488	.767	1.000																						
6	7.92	4.58	.072	.043	.166	.369	.594	.807	1.000																					
7	8.94	5.07	.088	.059	.155	.363	.527	.693	.860	1.000																				
8	10.33	5.68	.073	.039	.174	.364	.502	.649	.791	.882	1.000																			
9	12.11	6.66	.060	.033	.194	.368	.482	.608	.740	.804	.902	1.000																		
10	14.22	7.43	.055	.022	.203	.352	.446	.547	.652	.712	.795	.917	1.000																	
11	16.32	7.92	.036	.011	.229	.331	.411	.485	.562	.607	.685	.801	.901	1.000																
12	17.64	8.40	.008	.006	.230	.314	.385	.432	.491	.536	.600	.712	.807	.909	1.000															
13	17.36	8.00	-.017	.013	.234	.305	.387	.418	.467	.499	.555	.641	.717	.807	.909	1.000														
14	14.96	6.81	-.048	.018	.232	.313	.400	.420	.449	.472	.521	.583	.640	.710	.793	.880	1.000													
15	11.44	5.32	-.041	.025	.221	.273	.349	.372	.407	.439	.487	.526	.567	.622	.680	.761	.851	1.000												
16	7.94	4.13	.034	.009	.172	.229	.298	.328	.368	.394	.430	.440	.471	.506	.542	.601	.647	.788	1.000											
17	5.33	2.83	.137	.020	.038	.097	.199	.257	.265	.267	.276	.262	.278	.288	.284	.312	.339	.402	.629	1.000										
18	4.83	2.32	-.002	-.000	-.081	.009	.078	.119	.073	.055	.034	.000	-.007	-.006	-.030	-.041	-.050	-.042	.086	.427	1.000									
19	5.96	2.53	-.112	-.044	-.120	-.076	-.012	-.009	-.049	-.097	-.112	-.122	-.147	-.182	-.150	-.206	-.221	-.271	-.226	.011	.562	1.000								
20	7.52	2.82	-.117	-.048	-.065	-.075	-.013	-.027	-.053	-.102	-.113	-.124	-.146	-.189	-.217	-.249	-.276	-.327	-.314	-.107	.345	.696	1.000							
21	9.24	2.79	-.051	.005	-.070	-.099	-.037	-.033	-.050	-.087	-.096	-.098	-.120	-.165	-.154	-.225	-.281	-.306	-.273	-.117	.271	.538	.748	1.000						
22	10.93	2.79	.019	.034	-.038	-.088	-.067	-.034	-.034	-.061	-.077	-.083	-.109	-.142	-.157	-.194	-.235	-.270	-.244	-.105	.207	.459	.568	.766	1.000					
23	12.22	2.90	.026	-.009	-.046	-.086	-.084	-.052	-.059	-.088	-.100	-.104	-.124	-.153	-.165	-.194	-.237	-.294	-.267	-.112	.166	.432	.547	.594	.764	1.000				
24	13.34	2.94	-.002	-.014	-.047	-.070	-.063	-.044	-.040	-.063	-.077	-.083	-.056	-.119	-.124	-.134	-.175	-.234	-.249	-.116	.149	.392	.489	.526	.579	.795	1.000			
25	14.31	3.05	.011	-.002	-.050	-.058	-.047	-.036	-.053	-.072	-.088	-.090	-.098	-.135	-.146	-.164	-.187	-.242	-.264	-.133	.140	.368	.464	.494	.531	.613	.796	1.000		
26	15.12	3.33	.016	-.017	-.022	-.009	.001	-.000	-.033	-.053	-.055	-.048	-.058	-.105	-.124	-.147	-.147	-.195	-.200	-.145	.095	.321	.431	.456	.478	.529	.608	.794	1.000	
27	15.92	3.60	.017	-.053	-.025	-.002	.021	.006	-.027	-.034	-.056	-.046	-.047	-.087	-.119	-.150	-.153	-.187	-.180	-.143	.060	.254	.366	.401	.425	.464	.509	.605	.822	1.000

TABLE VI.9 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01' N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

SCALAR CORRELATION COEFFICIENTS

USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

SEPTEMBER

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	ALTITUDE (MSL) km																											
			SCALAR MEAN	2.73	3.15	5.30	7.19	8.33	9.17	10.90	12.66	14.80	16.76	19.10	21.51	-23.07	22.66	20.14	16.39	11.74	7.50	4.89	4.25	4.55	5.26	5.98	6.56	7.14	7.45	7.69	7.98
			SD	2.00	1.75	2.66	3.47	4.50	5.09	5.79	6.67	7.78	8.77	9.82	10.58	10.71	10.12	8.90	7.34	5.63	4.16	2.86	2.28	2.36	2.62	2.84	3.19	3.50	3.69	3.87	4.10
SFC	2.73	2.00	1.000																											
1	3.15	1.75	.064	1.000																										
2	5.30	2.66	-.003	.232	1.000																									
3	7.19	3.47	-.015	.145	.563	1.000																								
4	8.33	4.50	.000	.132	.401	.691	1.000																							
5	9.17	5.09	.044	.156	.327	.513	.777	1.000																						
6	10.90	5.79	.036	.174	.304	.453	.669	.867	1.000																					
7	12.66	6.67	.028	.151	.281	.417	.604	.763	.876	1.000																				
8	14.80	7.78	.026	.116	.262	.387	.554	.687	.784	.901	1.000																			
9	16.76	8.77	.017	.107	.228	.349	.493	.603	.706	.810	.917	1.000																		
10	19.10	9.82	-.002	.071	.166	.281	.423	.516	.605	.695	.800	.911	1.000																	
11	21.51	10.58	.000	.060	.143	.241	.373	.453	.530	.601	.706	.827	.928	1.000																
12	23.07	10.71	.006	.051	.130	.208	.334	.401	.465	.516	.607	.728	.823	.918	1.000															
13	22.66	10.12	.008	.045	.112	.171	.286	.341	.392	.437	.513	.628	.721	.813	.905	1.000														
14	20.14	8.90	-.027	.042	.121	.173	.291	.334	.378	.422	.477	.571	.646	.724	.812	.898	1.000													
15	16.39	7.34	-.054	.042	.147	.221	.333	.385	.418	.443	.488	.562	.616	.668	.750	.821	.896	1.000												
16	11.74	5.63	-.057	.036	.140	.212	.337	.392	.418	.446	.479	.522	.539	.568	.636	.693	.753	.863	1.000											
17	7.50	4.16	-.008	.088	.139	.170	.295	.351	.371	.388	.404	.399	.352	.402	.453	.494	.563	.631	.781	1.000										
18	4.89	2.86	-.005	.037	.058	.131	.194	.225	.245	.245	.253	.233	.216	.206	.222	.246	.293	.337	.435	.641	1.000									
19	4.25	2.28	-.050	-.037	.025	.109	.121	.129	.122	.104	.099	.105	.101	.078	.073	.077	.060	.074	.135	.246	.558	1.000								
20	4.55	2.36	-.013	-.070	-.021	.047	.021	.025	.016	.014	.005	.023	.025	-.003	-.020	-.022	-.049	-.076	-.082	-.052	.165	.595	1.000							
21	5.26	2.62	-.017	-.046	-.026	-.008	-.054	-.058	-.052	-.043	-.048	-.049	-.059	-.084	-.109	-.118	-.160	-.179	-.206	-.191	-.039	.281	.632	1.000						
22	5.98	2.84	-.020	-.023	-.039	-.044	-.098	-.124	-.106	-.059	-.074	-.079	-.086	-.116	-.138	-.155	-.203	-.222	-.242	-.243	-.135	.128	.415	.731	1.000					
23	6.56	3.19	-.018	-.018	-.041	-.046	-.108	-.126	-.103	-.071	-.081	-.079	-.085	-.122	-.148	-.167	-.209	-.219	-.244	-.234	-.109	.082	.354	.556	.770	1.000				
24	7.14	3.50	-.017	-.032	-.051	-.068	-.136	-.143	-.105	-.074	-.090	-.090	-.100	-.127	-.153	-.157	-.191	-.207	-.234	-.235	-.136	.011	.257	.463	.629	.836	1.000			
25	7.45	3.69	-.003	-.040	-.053	-.084	-.165	-.165	-.139	-.105	-.114	-.119	-.135	-.153	-.182	-.185	-.223	-.231	-.231	-.222	-.125	-.001	.197	.414	.567	.721	.865	1.000		
26	7.69	3.87	.006	-.042	-.036	-.065	-.167	-.173	-.152	-.111	-.128	-.137	-.156	-.180	-.214	-.208	-.243	-.250	-.230	-.199	-.092	.001	.163	.347	.506	.637	.728	.865	1.000	
27	7.98	4.10	.040	-.047	-.044	-.066	-.176	-.177	-.164	-.121	-.139	-.147	-.160	-.185	-.221	-.211	-.246	-.250	-.229	-.192	-.061	.019	.158	.318	.472	.576	.638	.723	.875	1.000

TABLE VI.10 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

OCTOBER

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			SCALAR MEAN	2.74	3.56	5.41	7.59	9.36	10.98	12.63	14.65	16.63	18.45	19.92	20.90	21.12	20.06	18.23	15.61	12.94	9.85	7.21	5.52	4.75	4.33	4.31	4.42	4.74	5.19	5.94	6.88
			SD	1.92	2.35	3.01	4.23	5.32	6.54	7.88	8.97	9.79	10.54	10.88	11.18	11.14	10.09	8.94	7.78	6.92	5.78	4.68	3.57	2.87	2.50	2.43	2.40	2.77	3.11	3.74	4.51
SFC	2.74	1.92		1.000																										
1	3.56	2.35		.151	1.000																									
2	5.41	3.01		.096	.378	1.000																								
3	7.59	4.23		.134	.301	.661	1.000																							
4	9.36	5.32		.188	.305	.517	.773	1.000																						
5	10.98	6.54		.157	.308	.447	.609	.824	1.000																					
6	12.63	7.88		.163	.306	.418	.545	.726	.884	1.000																				
7	14.65	8.97		.167	.307	.408	.491	.655	.802	.920	1.000																			
8	16.63	9.79		.175	.288	.386	.463	.606	.740	.846	.927	1.000																		
9	18.45	10.54		.151	.259	.353	.429	.549	.671	.769	.846	.928	1.000																	
10	19.92	10.88		.144	.225	.312	.384	.493	.602	.674	.747	.828	.921	1.000																
11	20.90	11.18		.113	.176	.281	.332	.441	.526	.576	.637	.715	.802	.908	1.000															
12	21.12	11.14		.100	.144	.260	.294	.392	.473	.504	.555	.613	.694	.802	.920	1.000														
13	20.06	10.09		.093	.106	.245	.251	.346	.420	.448	.482	.526	.596	.692	.804	.901	1.000													
14	18.23	8.94		.093	.098	.243	.229	.319	.388	.398	.423	.453	.501	.588	.701	.793	.898	1.000												
15	15.61	7.78		.080	.073	.258	.246	.319	.393	.396	.409	.425	.462	.548	.649	.732	.821	.909	1.000											
16	12.94	6.92		.076	.041	.243	.267	.335	.388	.388	.392	.410	.444	.514	.590	.656	.728	.804	.897	1.000										
17	9.85	5.78		.066	.037	.226	.257	.313	.356	.342	.342	.360	.385	.443	.498	.554	.613	.694	.764	.877	1.000									
18	7.21	4.68		.071	.082	.228	.229	.280	.317	.322	.322	.325	.353	.391	.427	.472	.511	.568	.626	.711	.837	1.000								
19	5.52	3.57		.058	.099	.158	.164	.213	.261	.283	.277	.292	.298	.320	.343	.358	.387	.441	.470	.550	.642	.804	1.000							
20	4.75	2.87		.074	.083	.107	.138	.174	.206	.231	.236	.259	.264	.277	.283	.279	.301	.326	.340	.384	.452	.544	.734	1.000						
21	4.33	2.50		.066	.035	.088	.095	.128	.176	.181	.190	.188	.191	.200	.208	.198	.202	.217	.218	.244	.282	.362	.466	.646	1.000					
22	4.31	2.43		.077	.060	.099	.117	.156	.162	.164	.154	.158	.176	.187	.190	.188	.199	.199	.181	.209	.225	.264	.344	.421	.689	1.000				
23	4.42	2.40		.066	.060	.019	.025	.052	.049	.058	.053	.060	.085	.099	.116	.115	.116	.118	.089	.128	.168	.190	.237	.282	.408	.683	1.000			
24	4.74	2.77		.031	.046	-.018	-.023	-.002	-.010	-.015	-.021	-.008	.004	.019	.035	.025	.010	.016	-.013	.014	.082	.114	.149	.215	.273	.404	.717	1.000		
25	5.19	3.11		.008	.055	-.048	-.037	-.006	-.025	-.037	-.061	-.050	-.046	-.040	-.035	-.038	-.060	-.081	-.087	-.049	.022	.067	.090	.133	.180	.294	.511	.788	1.000	
26	5.94	3.74		.038	.074	-.033	.005	.045	.007	-.007	-.019	-.015	-.020	-.015	-.015	-.024	-.061	-.086	-.077	-.038	.032	.084	.089	.119	.127	.189	.370	.574	.825	1.000	
27	6.88	4.51		.006	.066	-.042	.000	.041	.012	-.002	.002	.008	.007	.019	.018	.004	-.039	-.063	-.052	-.011	.068	.113	.109	.126	.115	.146	.300	.482	.682	.890	1.000

TABLE VI.II INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

NOVEMBER

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1080

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	3.08	4.19	6.31	9.08	11.39	13.63	15.85	18.12	20.58	22.76	24.78	26.06	25.91	24.61	22.51	19.92	17.00	13.88	11.09	8.79	7.27	6.56	6.45	6.93	7.63	8.51	9.94	11.53
			2.16	3.02	4.01	5.54	6.84	8.20	9.47	10.64	11.63	12.22	12.77	12.66	12.38	11.27	10.25	8.82	7.57	6.79	6.05	5.20	4.25	3.86	3.94	4.40	4.83	5.37	5.94	6.71
SFC	3.08	2.16	1.000																											
1	4.19	3.02	.306	1.000																										
2	6.31	4.01	.176	.528	1.000																									
3	9.08	5.54	.228	.456	.692	1.000																								
4	11.39	6.84	.251	.427	.606	.824	1.000																							
5	13.63	8.20	.243	.437	.573	.758	.892	1.000																						
6	15.85	9.47	.231	.444	.531	.694	.815	.920	1.000																					
7	18.12	10.64	.234	.436	.499	.651	.764	.863	.930	1.000																				
8	20.58	11.63	.227	.423	.488	.622	.718	.808	.871	.932	1.000																			
9	22.76	12.22	.210	.395	.452	.578	.673	.757	.821	.874	.942	1.000																		
10	24.78	12.77	.189	.363	.417	.531	.616	.693	.746	.793	.865	.939	1.000																	
11	26.06	12.66	.153	.310	.368	.479	.562	.624	.672	.713	.780	.855	.928	1.000																
12	25.91	12.38	.124	.256	.342	.450	.516	.571	.612	.641	.693	.758	.825	.919	1.000															
13	24.61	11.27	.102	.252	.358	.451	.508	.554	.580	.593	.635	.675	.727	.809	.905	1.000														
14	22.51	10.25	.073	.257	.367	.438	.501	.541	.569	.574	.602	.627	.657	.722	.797	.905	1.000													
15	19.92	8.82	.085	.244	.374	.439	.511	.543	.556	.552	.564	.581	.600	.649	.716	.817	.906	1.000												
16	17.00	7.57	.079	.208	.337	.410	.476	.507	.517	.507	.513	.532	.553	.598	.660	.754	.818	.907	1.000											
17	13.88	6.79	.083	.164	.280	.349	.407	.432	.444	.425	.425	.444	.466	.509	.566	.657	.725	.794	.888	1.000										
18	11.09	6.05	.089	.158	.276	.328	.356	.380	.389	.371	.376	.387	.410	.447	.485	.561	.630	.693	.767	.882	1.000									
19	8.79	5.20	.108	.149	.254	.307	.331	.346	.351	.335	.341	.345	.363	.397	.428	.486	.531	.594	.666	.727	.866	1.000								
20	7.27	4.25	.111	.137	.207	.232	.255	.259	.265	.257	.265	.270	.285	.323	.346	.386	.416	.467	.516	.569	.648	.812	1.000							
21	6.56	3.86	.077	.082	.134	.154	.148	.167	.176	.179	.187	.205	.229	.266	.273	.295	.320	.361	.406	.462	.526	.640	.817	1.000						
22	6.45	3.94	.049	.035	.083	.110	.119	.137	.143	.146	.150	.169	.195	.236	.254	.265	.276	.304	.358	.399	.460	.563	.661	.822	1.000					
23	6.93	4.40	.032	.064	.077	.110	.127	.162	.160	.160	.165	.184	.214	.252	.276	.293	.287	.292	.339	.377	.419	.498	.579	.646	.827	1.000				
24	7.63	4.83	-.034	.024	.028	.019	.036	.071	.079	.076	.099	.127	.163	.197	.229	.238	.231	.232	.274	.308	.339	.393	.463	.548	.690	.856	1.000			
25	8.51	5.37	-.082	-.015	-.008	-.019	-.014	.009	.014	.014	.027	.053	.091	.131	.174	.194	.182	.176	.212	.240	.260	.299	.351	.436	.579	.704	.889	1.000		
26	9.94	5.94	-.096	-.045	-.026	-.021	-.016	-.013	-.003	.001	.012	.034	.062	.100	.143	.148	.137	.128	.152	.170	.180	.225	.276	.353	.479	.582	.746	.885	1.000	
27	11.53	6.71	-.077	-.041	-.031	-.013	-.015	-.014	-.009	-.007	-.003	.013	.033	.068	.107	.112	.100	.090	.111	.133	.145	.178	.212	.284	.401	.496	.646	.770	.917	1.000

TABLE VI.12 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

DECEMBER

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 1116

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	2.96	4.37	6.57	9.35	11.28	13.03	15.13	17.31	19.66	21.95	24.28	25.99	25.86	24.36	22.36	20.03	17.41	14.28	11.56	9.21	7.63	7.06	7.08	7.48	8.23	9.27	10.79	12.44
			1.83	3.04	4.18	5.96	7.24	8.30	9.84	11.05	12.45	13.10	13.66	13.96	13.51	12.16	10.41	8.57	7.24	6.30	5.30	4.56	4.03	3.88	3.96	4.33	4.97	5.82	6.72	7.71
SFC	2.96	1.83	1.000																											
1	4.37	3.04	.233	1.000																										
2	6.57	4.18	.157	.589	1.000																									
3	9.35	5.96	.161	.464	.717	1.000																								
4	11.28	7.24	.212	.451	.640	.856	1.000																							
5	13.03	8.30	.233	.431	.605	.781	.894	1.000																						
6	15.13	9.84	.234	.423	.569	.710	.830	.927	1.000																					
7	17.31	11.05	.223	.392	.517	.649	.762	.861	.934	1.000																				
8	19.66	12.45	.239	.398	.498	.629	.727	.828	.890	.955	1.000																			
9	21.95	13.10	.214	.384	.469	.595	.693	.784	.840	.899	.948	1.000																		
10	24.28	13.66	.191	.345	.404	.548	.628	.698	.750	.805	.852	.931	1.000																	
11	25.99	13.96	.153	.309	.360	.503	.569	.628	.673	.723	.766	.842	.923	1.000																
12	25.86	13.51	.109	.291	.330	.451	.503	.551	.591	.632	.663	.736	.808	.904	1.000															
13	24.36	12.16	.092	.304	.341	.437	.479	.512	.535	.572	.590	.652	.707	.790	.912	1.000														
14	22.36	10.41	.090	.295	.337	.443	.470	.509	.525	.547	.556	.599	.638	.704	.814	.910	1.000													
15	20.03	8.57	.112	.263	.320	.422	.447	.486	.492	.502	.503	.534	.554	.611	.718	.824	.898	1.000												
16	17.41	7.24	.122	.223	.296	.386	.409	.441	.446	.446	.449	.471	.478	.529	.630	.726	.792	.895	1.000											
17	14.28	6.30	.101	.191	.260	.345	.367	.385	.382	.379	.379	.398	.406	.447	.546	.641	.692	.759	.858	1.000										
18	11.56	5.30	.094	.144	.213	.317	.338	.348	.334	.330	.323	.340	.340	.361	.450	.530	.586	.653	.726	.852	1.000									
19	9.21	4.56	.076	.115	.181	.269	.282	.291	.279	.276	.262	.276	.266	.281	.344	.416	.463	.529	.605	.676	.831	1.000								
20	7.63	4.03	.054	.071	.085	.162	.171	.189	.181	.176	.177	.192	.193	.194	.221	.277	.319	.368	.429	.498	.609	.790	1.000							
21	7.06	3.88	.080	.036	.022	.108	.121	.132	.117	.099	.111	.115	.115	.115	.125	.164	.199	.243	.307	.380	.473	.602	.813	1.000						
22	7.08	3.96	.081	.027	.016	.084	.095	.104	.078	.067	.078	.077	.077	.072	.071	.085	.096	.128	.182	.253	.350	.457	.602	.802	1.000					
23	7.48	4.33	.107	.043	.030	.123	.123	.143	.117	.124	.138	.123	.111	.095	.082	.090	.093	.114	.154	.211	.288	.379	.520	.634	.831	1.000				
24	8.23	4.97	.139	.060	.025	.132	.139	.138	.120	.131	.148	.134	.128	.117	.122	.137	.146	.170	.192	.241	.304	.376	.487	.568	.701	.878	1.000			
25	9.27	5.82	.152	.056	.040	.149	.154	.141	.124	.131	.146	.133	.135	.117	.130	.152	.173	.199	.216	.255	.314	.352	.443	.502	.611	.737	.890	1.000		
26	10.79	6.72	.103	.036	.030	.132	.122	.115	.101	.112	.126	.116	.113	.095	.118	.150	.181	.202	.208	.251	.309	.340	.417	.467	.565	.654	.777	.912	1.000	
27	12.44	7.71	.084	.035	.021	.123	.104	.090	.070	.073	.086	.078	.072	.062	.103	.150	.182	.210	.216	.257	.312	.353	.414	.442	.515	.597	.701	.817	.931	1.000

TABLE VI.13 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

WINTER
SCALAR WIND CORRELATIONS
SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3252

ALTITUDE (MSL) km		ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
		SCALAR MEAN	2.93	4.50	7.09	10.34	12.95	15.29	17.67	20.14	22.89	25.47	28.09	29.99	30.10	28.58	26.20	23.13	19.91	16.39	12.92	9.00	8.16	7.55	7.59	8.04	8.70	9.74	11.06	12.46
ALTITUDE (MSL) km	SCALAR MEAN	SD	2.01	3.32	4.31	5.85	7.20	8.56	9.92	11.33	12.77	13.66	14.39	15.02	14.47	12.90	11.29	9.32	7.83	6.95	6.01	5.31	4.88	4.87	5.17	5.55	6.15	6.91	7.64	8.33
SFC	2.93	2.01	1.000																											
1	4.50	3.32	.321	1.000																										
2	7.09	4.31	.162	.566	1.000																									
3	10.34	5.85	.158	.418	.723	1.000																								
4	12.95	7.20	.180	.414	.628	.847	1.000																							
5	15.29	8.56	.203	.387	.575	.768	.891	1.000																						
6	17.67	9.92	.209	.385	.535	.696	.816	.912	1.000																					
7	20.14	11.33	.211	.370	.488	.637	.752	.841	.929	1.000																				
8	22.89	12.77	.214	.370	.474	.605	.708	.793	.872	.946	1.000																			
9	25.47	13.66	.193	.345	.446	.569	.670	.748	.818	.883	.944	1.000																		
10	28.09	14.39	.154	.304	.400	.522	.613	.674	.739	.793	.851	.929	1.000																	
11	29.99	15.02	.111	.262	.360	.472	.548	.603	.663	.707	.757	.830	.920	1.000																
12	30.10	14.47	.084	.245	.345	.444	.506	.550	.599	.631	.669	.731	.812	.913	1.000															
13	28.58	12.90	.070	.229	.336	.425	.480	.519	.553	.577	.602	.651	.714	.800	.905	1.000														
14	26.20	11.29	.070	.221	.323	.417	.464	.499	.525	.536	.551	.591	.636	.706	.802	.904	1.000													
15	23.13	9.32	.083	.204	.311	.402	.442	.471	.491	.499	.509	.540	.573	.633	.726	.825	.902	1.000												
16	19.91	7.83	.091	.170	.280	.363	.404	.432	.448	.440	.447	.467	.493	.544	.633	.732	.797	.891	1.000											
17	16.39	6.95	.088	.139	.264	.346	.372	.391	.391	.377	.377	.391	.420	.461	.542	.639	.696	.752	.864	1.000										
18	12.92	6.01	.085	.117	.224	.302	.328	.333	.332	.318	.311	.321	.340	.367	.424	.504	.563	.624	.709	.839	1.000									
19	9.00	5.31	.078	.096	.171	.225	.242	.249	.252	.244	.235	.236	.244	.263	.300	.353	.406	.456	.550	.640	.826	1.000								
20	8.16	4.88	.065	.073	.123	.160	.171	.184	.192	.183	.180	.182	.188	.197	.212	.247	.283	.317	.405	.492	.633	.820	1.000							
21	7.55	4.87	.058	.071	.095	.115	.134	.146	.153	.140	.140	.142	.144	.153	.151	.165	.190	.212	.282	.359	.490	.648	.843	1.000						
22	7.59	5.17	.045	.062	.055	.067	.083	.094	.101	.096	.096	.096	.096	.101	.099	.097	.109	.125	.175	.241	.362	.505	.677	.870	1.000					
23	8.04	5.55	.043	.057	.040	.061	.075	.088	.096	.097	.095	.089	.078	.077	.072	.070	.085	.094	.137	.190	.293	.429	.597	.751	.892	1.000				
24	8.70	6.15	.055	.050	.027	.052	.061	.072	.080	.080	.080	.074	.066	.065	.065	.067	.089	.098	.135	.183	.273	.394	.543	.676	.791	.915	1.000			
25	9.74	6.91	.056	.044	.025	.051	.056	.064	.072	.074	.076	.067	.065	.061	.063	.065	.090	.101	.138	.186	.270	.372	.508	.630	.733	.826	.924	1.000		
26	11.06	7.64	.044	.032	.015	.042	.043	.051	.058	.062	.064	.053	.051	.048	.051	.064	.090	.099	.134	.187	.271	.364	.474	.586	.681	.750	.832	.932	1.000	
27	12.46	8.33	.035	.038	.018	.049	.052	.053	.056	.057	.056	.042	.035	.035	.043	.063	.087	.099	.136	.190	.271	.352	.444	.544	.621	.677	.749	.843	.943	1.000

TABLE VI.14 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

SPRING

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3312

ALTITUDE (MSL) km	SCALAR MEAN	SD	ALTITUDE (MSL) km	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
			SCALAR MEAN	3.28	4.13	6.61	9.70	12.36	14.84	17.39	19.95	22.67	25.13	27.50	29.43	29.49	28.19	25.72	22.53	19.07	15.22	11.25	8.06	6.02	5.07	4.92	5.19	5.57	6.04	6.66	7.38
			SD	2.44	2.89	3.66	5.44	7.00	8.42	9.81	11.02	12.02	12.63	13.24	13.67	12.67	11.03	9.42	8.00	7.14	6.43	5.80	4.96	4.03	3.36	3.17	3.33	3.65	4.00	4.53	5.15
SFC	3.28	2.44		1.000																										
1	4.13	2.89		.223	1.000																									
2	6.61	3.66		.111	.440	1.000																								
3	9.70	5.44		.172	.378	.687	1.000																							
4	12.36	7.00		.211	.333	.610	.839	1.000																						
5	14.84	8.42		.236	.333	.542	.739	.896	1.000																					
6	17.39	9.81		.240	.334	.514	.677	.816	.922	1.000																				
7	19.95	11.02		.235	.329	.490	.634	.762	.860	.938	1.000																			
8	22.67	12.02		.233	.321	.466	.585	.709	.806	.882	.948	1.000																		
9	25.13	12.63		.213	.294	.437	.542	.661	.757	.825	.888	.947	1.000																	
10	27.50	13.24		.179	.263	.388	.490	.598	.693	.755	.813	.869	.934	1.000																
11	29.43	13.67		.142	.222	.341	.442	.543	.627	.677	.726	.776	.840	.930	1.000															
12	29.49	12.67		.119	.179	.303	.404	.498	.571	.608	.647	.685	.745	.836	.925	1.000														
13	28.19	11.03		.101	.178	.296	.391	.476	.532	.558	.579	.604	.651	.724	.803	.896	1.000													
14	25.72	9.42		.097	.169	.285	.385	.466	.506	.523	.535	.542	.572	.626	.692	.777	.884	1.000												
15	22.53	8.00		.087	.167	.272	.371	.450	.485	.494	.498	.502	.519	.561	.620	.696	.792	.894	1.000											
16	19.07	7.14		.067	.142	.251	.340	.409	.434	.434	.445	.444	.453	.486	.535	.598	.686	.784	.894	1.000										
17	15.22	6.43		.063	.113	.229	.304	.362	.379	.373	.373	.372	.379	.405	.445	.499	.582	.682	.779	.874	1.000									
18	11.25	5.80		.057	.126	.224	.302	.346	.353	.343	.343	.338	.344	.362	.387	.426	.505	.592	.679	.739	.864	1.000								
19	8.06	4.96		.061	.131	.229	.296	.322	.328	.318	.321	.314	.313	.325	.345	.376	.438	.513	.576	.636	.717	.858	1.000							
20	6.02	4.03		.043	.104	.216	.272	.284	.279	.283	.288	.287	.282	.290	.304	.324	.377	.432	.477	.520	.576	.670	.821	1.000						
21	5.07	3.36		.028	.089	.191	.234	.232	.236	.238	.242	.234	.230	.245	.256	.268	.308	.341	.368	.376	.411	.475	.576	.763	1.000					
22	4.92	3.17		.013	.073	.143	.166	.165	.178	.180	.179	.176	.175	.192	.204	.213	.243	.259	.258	.256	.267	.307	.390	.505	.750	1.000				
23	5.19	3.33		.020	.079	.126	.141	.140	.149	.163	.164	.162	.160	.173	.180	.184	.208	.206	.197	.187	.191	.226	.289	.381	.542	.788	1.000			
24	5.57	3.65		-.003	.072	.123	.120	.125	.134	.142	.145	.143	.150	.164	.176	.179	.193	.177	.173	.158	.151	.172	.212	.295	.418	.589	.816	1.000		
25	6.04	4.00		-.001	.085	.126	.116	.119	.126	.126	.123	.123	.136	.154	.169	.181	.192	.183	.186	.171	.156	.173	.200	.268	.369	.497	.658	.848	1.000	
26	6.66	4.53		.011	.102	.137	.133	.131	.135	.133	.127	.130	.138	.151	.165	.182	.190	.186	.198	.191	.184	.200	.221	.266	.341	.446	.565	.708	.875	1.000	
27	7.38	5.15		.016	.111	.136	.138	.134	.140	.137	.135	.141	.147	.159	.174	.182	.187	.188	.211	.207	.207	.231	.247	.274	.329	.402	.496	.613	.740	.895	1.000

TABLE VI.15 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

SUMMER

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3312

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
		SCALAR MEAN	3.02	3.11	4.82	6.52	7.60	8.16	9.11	10.26	11.80	13.57	15.59	17.59	18.69	18.41	16.16	12.61	8.96	6.23	5.32	6.08	7.54	9.05	10.34	11.41	12.35	13.13	13.80	14.52
		SD	2.35	1.98	2.56	3.61	4.25	4.85	5.55	6.22	7.09	7.89	8.60	9.23	9.61	9.49	8.40	6.57	4.89	3.32	2.55	2.80	3.04	3.14	3.24	3.48	3.75	4.08	4.49	4.91
SFC	3.02	2.35	1.000																											
1	3.11	1.98	.932	1.000																										
2	4.82	2.56	-.024	.186	1.000																									
3	6.52	3.61	-.017	.061	.581	1.000																								
4	7.60	4.25	.025	.069	.429	.733	1.000																							
5	8.16	4.85	.051	.072	.345	.558	.793	1.000																						
6	9.11	5.55	.063	.043	.299	.465	.660	.849	1.000																					
7	10.26	6.22	.065	.017	.258	.419	.585	.747	.889	1.000																				
8	11.80	7.09	.058	-.002	.236	.394	.547	.688	.816	.917	1.000																			
9	13.57	7.89	.069	-.019	.213	.372	.508	.633	.758	.847	.928	1.000																		
10	15.59	8.60	.054	-.031	.192	.354	.470	.573	.691	.771	.850	.927	1.000																	
11	17.59	9.23	.051	-.041	.198	.344	.443	.528	.628	.700	.772	.843	.927	1.000																
12	18.69	9.61	.037	-.044	.192	.330	.413	.492	.579	.641	.699	.761	.842	.926	1.000															
13	18.41	9.49	.021	-.054	.189	.322	.399	.466	.540	.591	.634	.682	.749	.830	.920	1.000														
14	16.16	8.40	.009	-.049	.197	.334	.415	.472	.529	.568	.600	.633	.685	.750	.831	.914	1.000													
15	12.61	6.57	.003	-.031	.218	.327	.403	.463	.520	.557	.579	.597	.629	.677	.745	.819	.897	1.000												
16	8.96	4.89	.035	-.017	.215	.302	.374	.442	.494	.514	.530	.530	.542	.571	.621	.681	.740	.857	1.000											
17	6.23	3.32	.110	.019	.149	.216	.272	.340	.367	.368	.363	.347	.346	.357	.376	.409	.459	.525	.697	1.000										
18	5.32	2.55	.017	.033	.009	.027	.058	.084	.066	.048	.022	.002	-.009	-.008	-.019	-.029	-.025	.033	.113	.450	1.000									
19	6.08	2.80	-.111	-.000	-.122	-.124	-.108	-.124	-.163	-.198	-.211	-.219	-.228	-.237	-.258	-.284	-.304	-.323	-.274	-.345	.543	1.000								
20	7.54	3.04	-.147	-.016	-.142	-.159	-.154	-.181	-.213	-.239	-.249	-.248	-.258	-.271	-.292	-.315	-.341	-.376	-.371	-.187	.308	.727	1.000							
21	9.05	3.14	-.092	-.003	-.142	-.183	-.191	-.229	-.256	-.276	-.285	-.282	-.285	-.295	-.308	-.327	-.355	-.368	-.385	-.234	.225	.572	.773	1.000						
22	10.34	3.24	-.038	.003	-.136	-.186	-.198	-.228	-.248	-.265	-.279	-.276	-.275	-.281	-.289	-.303	-.329	-.362	-.370	-.226	.198	.522	.629	.798	1.000					
23	11.41	3.48	-.021	-.006	-.126	-.166	-.186	-.219	-.238	-.254	-.271	-.271	-.270	-.277	-.285	-.294	-.315	-.353	-.360	-.211	.192	.510	.592	.645	.824	1.000				
24	12.35	3.75	-.036	-.016	-.116	-.149	-.172	-.207	-.223	-.236	-.252	-.250	-.243	-.254	-.258	-.265	-.291	-.333	-.350	-.219	.180	.487	.556	.599	.688	.852	1.000			
25	13.13	4.08	-.036	-.032	-.110	-.154	-.186	-.217	-.241	-.250	-.264	-.258	-.245	-.259	-.265	-.279	-.308	-.343	-.356	-.245	.145	.458	.533	.578	.637	.712	.863	1.000		
26	13.80	4.49	-.021	-.032	-.098	-.145	-.181	-.217	-.245	-.258	-.269	-.262	-.251	-.265	-.275	-.294	-.323	-.363	-.368	-.269	.119	.439	.510	.551	.608	.659	.740	.873	1.000	
27	14.52	4.91	-.004	-.036	-.100	-.142	-.162	-.202	-.228	-.238	-.259	-.255	-.244	-.258	-.275	-.298	-.323	-.367	-.359	-.260	.101	.405	.472	.516	.574	.619	.669	.747	.892	1.000

TABLE VI.16 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION		PERIOD OF DATA
		LATITUDE	LONGITUDE	
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN 1, 1956 to DEC 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

FALL

SCALAR WIND CORRELATIONS

SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 3276

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km			SCALAR MEAN	2.85	3.63	5.67	7.95	9.69	11.26	13.12	15.14	17.33	19.31	21.25	22.80	23.34	22.42	20.27	17.79	13.88	10.40	7.73	6.18	5.52	5.37	5.56	5.95	6.48	7.03	7.84	8.78
			SD	2.03	2.46	3.30	4.57	5.78	6.97	8.12	9.19	10.14	10.89	11.50	11.73	11.60	10.67	9.54	8.22	7.12	6.25	5.36	4.31	3.48	3.19	3.26	3.60	3.99	4.38	4.91	5.59
SFC	2.85	2.03	1.000																											
1	3.63	2.46	.205	1.000																										
2	5.67	3.30	.113	.497	1.000																									
3	7.95	4.57	.147	.370	.663	1.000																								
4	9.69	5.78	.176	.357	.547	.789	1.000																							
5	11.26	6.97	.177	.373	.497	.676	.855	1.000																						
6	13.12	8.12	.173	.378	.464	.616	.770	.906	1.000																					
7	15.14	9.19	.172	.369	.441	.572	.712	.834	.922	1.000																				
8	17.33	10.14	.170	.348	.424	.542	.665	.773	.855	.928	1.000																			
9	19.31	10.89	.152	.320	.388	.502	.614	.713	.791	.858	.935	1.000																		
10	21.25	11.50	.134	.283	.344	.450	.553	.641	.704	.765	.844	.929	1.000																	
11	22.80	11.73	.108	.231	.305	.394	.494	.564	.617	.668	.745	.833	.923	1.000																
12	23.34	11.60	.091	.186	.275	.354	.439	.500	.543	.582	.645	.727	.817	.920	1.000															
13	22.42	10.67	.080	.166	.270	.328	.405	.456	.488	.514	.565	.633	.713	.811	.906	1.000														
14	20.27	9.54	.060	.171	.280	.322	.402	.447	.473	.492	.527	.576	.639	.724	.806	.903	1.000													
15	17.79	8.22	.058	.170	.311	.349	.429	.477	.491	.497	.519	.555	.605	.669	.739	.822	.905	1.000												
16	13.88	7.12	.063	.162	.289	.355	.437	.485	.492	.493	.507	.533	.565	.604	.652	.716	.786	.893	1.000											
17	10.40	6.25	.081	.169	.266	.328	.406	.452	.453	.445	.450	.462	.479	.498	.525	.574	.650	.738	.872	1.000										
18	7.73	5.36	.092	.182	.257	.312	.364	.408	.412	.401	.401	.405	.412	.415	.420	.452	.516	.598	.718	.860	1.000									
19	6.18	4.31	.086	.170	.226	.284	.324	.361	.366	.351	.352	.352	.356	.355	.348	.369	.413	.481	.590	.698	.847	1.000								
20	5.52	3.48	.092	.136	.173	.219	.245	.268	.275	.269	.275	.277	.283	.284	.273	.288	.312	.355	.422	.499	.607	.788	1.000							
21	5.37	3.19	.065	.073	.115	.138	.135	.161	.170	.173	.174	.181	.191	.201	.189	.195	.204	.233	.264	.319	.410	.548	.747	1.000						
22	5.56	3.26	.048	.043	.077	.097	.095	.100	.112	.118	.118	.129	.145	.159	.161	.165	.160	.168	.192	.221	.291	.417	.552	.781	1.000					
23	5.95	3.60	.037	.055	.054	.073	.068	.080	.090	.093	.096	.110	.130	.145	.150	.155	.144	.141	.159	.192	.252	.351	.470	.601	.802	1.000				
24	6.48	3.99	.003	.031	.022	.016	.010	.023	.037	.039	.051	.066	.088	.104	.111	.113	.104	.098	.111	.147	.200	.275	.383	.507	.651	.843	1.000			
25	7.03	4.38	-.016	.020	.003	-.001	-.010	-.001	.008	.006	.014	.026	.045	.061	.071	.076	.059	.061	.087	.129	.181	.239	.315	.429	.561	.704	.876	1.000		
26	7.84	4.91	-.006	.026	.011	.025	.021	.019	.027	.030	.033	.039	.050	.059	.060	.054	.040	.051	.090	.142	.195	.238	.292	.367	.470	.589	.726	.877	1.000	
27	8.78	5.59	.006	.039	.012	.039	.036	.039	.042	.048	.047	.051	.058	.062	.056	.046	.034	.051	.101	.166	.222	.249	.277	.324	.403	.504	.625	.752	.909	1.000

TABLE VI.17 INTERLEVEL COEFFICIENTS OF LINEAR CORRELATION BETWEEN SCALAR WINDS

STATION	ELEVATION MSL (meters)	LOCATION LATITUDE	LOCATION LONGITUDE	PERIOD OF DATA
SANTA MONICA, CALIFORNIA	38	34°01'N	118° 16' W	JAN. 1, 1956 to DEC. 31, 1964

NOTES: SCALAR MEAN VALUES - UNIT ms^{-1}
SD - STANDARD DEVIATION, UNIT ms^{-1}

SCALAR CORRELATION COEFFICIENTS
USE VALUES BELOW AND TO THE LEFT OF THE DIAGONAL LINES. THE DIAGONAL VALUES ARE ALWAYS 1.00 SINCE THEY ARE CORRELATIONS OF EACH VALUE WITH THE SAME VALUE.

ANNUAL
SCALAR WIND CORRELATIONS
SANTA MONICA, CALIFORNIA

PREPARED FROM NINE YEARS, FOUR TIMES DAILY, SERIALLY COMPLETE RECORDS BY:
TERRESTRIAL ENVIRONMENT BRANCH, AEROSPACE ENVIRONMENT DIVISION
AERO-ASTRODYNAMICS LABORATORY
GEORGE C. MARSHALL SPACE FLIGHT CENTER, HUNTSVILLE, ALABAMA

NUMBER OF OBSERVATIONS FOR EACH ALTITUDE LEVEL: 13152

ALTITUDE (MSL) km	SCALAR MEAN	SD	SFC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ALTITUDE (MSL) km	SCALAR MEAN	SD	ALTITUDE (MSL) km																											
			SCALAR MEAN	3.02	3.84	6.04	8.62	10.64	12.38	14.31	16.36	18.66	20.85	23.09	24.93	25.39	24.39	22.07	18.87	15.44	12.04	9.29	7.57	6.81	6.76	7.10	7.65	8.28	8.99	9.84	10.78
			SD	2.15	2.76	3.62	5.16	6.53	7.90	9.22	10.47	11.65	12.47	13.15	13.59	13.08	11.86	10.56	9.14	8.12	7.16	5.92	4.73	4.06	4.05	4.35	4.74	5.21	5.69	6.21	6.77
SFC	3.02	2.15	1.000																											
1	3.84	2.76	.207	1.000																										
2	6.04	3.62	.101	.478	1.000																									
3	8.62	5.16	.128	.367	.702	1.000																								
4	10.64	6.53	.159	.370	.608	.834	1.000																							
5	12.38	7.90	.176	.368	.558	.740	.888	1.000																						
6	14.31	9.22	.179	.366	.524	.679	.813	.920	1.000																					
7	16.36	10.47	.178	.356	.494	.635	.760	.859	.937	1.000																				
8	18.66	11.65	.177	.348	.477	.604	.719	.812	.885	.949	1.000																			
9	20.85	12.47	.159	.324	.451	.571	.680	.768	.836	.894	.950	1.000																		
10	23.09	13.15	.136	.292	.412	.530	.630	.709	.770	.821	.876	.941	1.000																	
11	24.93	13.59	.109	.254	.377	.489	.579	.648	.702	.746	.796	.859	.936	1.000																
12	25.39	13.08	.089	.224	.353	.457	.536	.597	.640	.675	.716	.773	.847	.930	1.000															
13	24.39	11.86	.075	.209	.344	.439	.512	.562	.596	.620	.650	.697	.757	.831	.917	1.000														
14	22.07	10.56	.067	.210	.345	.440	.511	.555	.581	.596	.615	.648	.693	.753	.828	.914	1.000													
15	18.87	9.14	.065	.218	.355	.447	.515	.560	.580	.591	.602	.625	.657	.702	.765	.839	.915	1.000												
16	15.44	8.12	.067	.212	.345	.434	.502	.547	.563	.568	.575	.588	.609	.638	.685	.747	.814	.910	1.000											
17	12.04	7.16	.077	.207	.324	.411	.471	.512	.518	.515	.517	.524	.539	.557	.590	.641	.708	.789	.895	1.000										
18	9.29	5.92	.069	.202	.297	.374	.423	.452	.453	.447	.443	.446	.455	.464	.480	.519	.579	.657	.749	.870	1.000									
19	7.57	4.73	.045	.163	.227	.287	.319	.336	.332	.325	.318	.316	.321	.328	.336	.361	.406	.462	.546	.648	.824	1.000								
20	6.81	4.06	.019	.086	.122	.155	.166	.166	.163	.154	.150	.150	.155	.161	.163	.179	.199	.219	.269	.358	.523	.770	1.000							
21	6.76	4.05	.010	.026	.033	.037	.030	.021	.014	.004	-.001	-.000	.008	.018	.017	.022	.022	.014	.033	.101	.259	.501	.788	1.000						
22	7.10	4.35	.007	-.006	-.025	-.036	-.047	-.062	-.069	-.077	-.082	-.080	-.070	-.059	-.055	-.056	-.068	-.092	-.093	-.042	.102	.339	.604	.847	1.000					
23	7.65	4.74	.008	-.012	-.043	-.053	-.068	-.083	-.088	-.095	-.100	-.100	-.093	-.084	-.081	-.081	-.097	-.128	-.135	-.090	.043	.270	.529	.724	.882	1.000				
24	8.28	5.21	-.001	-.021	-.052	-.066	-.082	-.098	-.103	-.109	-.112	-.109	-.100	-.091	-.085	-.086	-.102	-.134	-.145	-.105	.019	.229	.476	.659	.782	.906	1.000			
25	8.99	5.69	-.004	-.017	-.046	-.061	-.078	-.094	-.102	-.108	-.110	-.108	-.096	-.088	-.082	-.083	-.096	-.122	-.127	-.087	.032	.224	.449	.621	.728	.814	.917	1.000		
26	9.84	6.21	-.002	-.007	-.032	-.039	-.058	-.074	-.083	-.088	-.091	-.091	-.082	-.075	-.069	-.071	-.082	-.101	-.098	-.053	.064	.242	.437	.583	.676	.742	.822	.921	1.000	
27	10.78	6.77	.002	.009	-.019	-.019	-.034	-.050	-.060	-.065	-.068	-.071	-.064	-.058	-.056	-.057	-.065	-.075	-.066	-.015	.099	.257	.421	.546	.621	.676	.743	.828	.933	1.000

"The aeronautical and space activities of the United States shall be conducted so as to contribute . . . to the expansion of human knowledge of phenomena in the atmosphere and space. The Administration shall provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof."

—NATIONAL AERONAUTICS AND SPACE ACT OF 1958

NASA SCIENTIFIC AND TECHNICAL PUBLICATIONS

TECHNICAL REPORTS: Scientific and technical information considered important, complete, and a lasting contribution to existing knowledge.

TECHNICAL NOTES: Information less broad in scope but nevertheless of importance as a contribution to existing knowledge.

TECHNICAL MEMORANDUMS: Information receiving limited distribution because of preliminary data, security classification, or other reasons.

CONTRACTOR REPORTS: Scientific and technical information generated under a NASA contract or grant and considered an important contribution to existing knowledge.

TECHNICAL TRANSLATIONS: Information published in a foreign language considered to merit NASA distribution in English.

SPECIAL PUBLICATIONS: Information derived from or of value to NASA activities. Publications include conference proceedings, monographs, data compilations, handbooks, sourcebooks, and special bibliographies.

TECHNOLOGY UTILIZATION PUBLICATIONS: Information on technology used by NASA that may be of particular interest in commercial and other non-aerospace applications. Publications include Tech Briefs, Technology Utilization Reports and Notes, and Technology Surveys.

Details on the availability of these publications may be obtained from:

SCIENTIFIC AND TECHNICAL INFORMATION DIVISION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Washington, D.C. 20546